

# EXHIBIT C

Page 1

1 UNITED STATES DISTRICT COURT  
2 FOR THE DISTRICT OF NEW JERSEY  
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5 MDL No. 16-2738 (FLW) (LHG)

6 IN RE: JOHNSON & JOHNSON  
7 TALCUM POWDER PRODUCTS  
8 MARKETING, SALES PRACTICES,  
9 AND PRODUCTS LIABILITY LITIGATION  
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14 The remote video deposition of WILLIAM LONGO,  
15 Ph.D., taken via Zoom videoconference on  
16 May 2, 2024, commencing at approximately  
17 11:20 a.m., before Lois Anne Robinson,  
18 Certified Realtime Reporter.  
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<p style="text-align: right;">Page 2</p> <p>1           A P P E A R A N C E S</p> <p>2 COUNSEL FOR PLAINTIFFS:</p> <p>3       BEASLEY, ALLEN, CROW, METHVIN, PORTIS &amp; MILES, P.C.</p> <p>4       218 Commerce Street</p> <p>5       Montgomery, Alabama 36103</p> <p>6       BY: Leigh O'Dell, Esquire</p> <p>7       Leigh.odell@beasleyallen.com</p> <p>8       Leanna Pittard, Esquire</p> <p>9       Leanna.pittard@beasleyallen.com</p> <p>10       ASHCRAFT &amp; GEREL</p> <p>11       1825 K Street NW, Suite 700</p> <p>12       Washington, DC 20006</p> <p>13       BY: Michelle A. Parfitt, Esquire</p> <p>14       Mparfitt@ashcraftlaw.com</p> <p>15       COHEN, PLACITLA &amp; ROTH</p> <p>16       127 Maple Avenue</p> <p>17       Red Bank, New Jersey 07701</p> <p>18       BY: Christopher Placitella, Esquire</p> <p>19       Cplacitella@cprlaw.com</p> <p>20       Drew Renzi, Esquire</p> <p>21       Drenzi@cprlaw.com</p> <p>22       REILLY, McDEVITT &amp; HENRICH, P.C.</p> <p>23       3 Executive Campus, Suite 310</p> <p>24       Cherry Hill, New Jersey 08002</p> <p>      BY: Stephanie DiVita, Esq.</p> <p>      Sdivita@rmh-law.com</p> <p>      FOR THE DEFENDANT:</p> <p>      KING &amp; SPALDING</p> <p>      1185 Avenue of the Americas</p> <p>      34th Floor</p> <p>      New York, New York 10036</p> <p>      BY: John Ewald, Esquire</p> <p>      Jewald@kslaw.com</p> <p>      Jake Keester, Esquire</p> <p>      Jkeester@kslaw.com</p> <p>      VIDEOGRAPHER: Maria Lima</p> <p>      Lois Anne Robinson, RPR, RDR, CRR</p> <p>      Court Reporter</p>	<p style="text-align: right;">Page 4</p> <p>1           I N D E X - (continued)</p> <p>2 Exhibit 8                               57</p> <p>3 Reliance list</p> <p>4 Exhibit 9                               57</p> <p>5 Fourth Supplemental MDL expert report - 4/29/24</p> <p>6 Exhibit 10                              58</p> <p>7 Supplemental expert report - 5/2/24</p> <p>8 Exhibit 11                              58</p> <p>9 MDL second supplemental expert report - 2/1/19</p> <p>10 Exhibit 12                             145</p> <p>11 2/4/20 - Longo - "The Heavy Liquid Separation Method for the</p> <p>12 Analysis of Cosmetic Talc to Detect Amphibole and Chrysotile</p> <p>13 Asbestos"</p> <p>14</p> <p>15</p> <p>16</p> <p>17</p> <p>18</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p> <p>23</p> <p>24</p>
<p style="text-align: right;">Page 3</p> <p>1           I N D E X</p> <p>2 EXAMINATION                           PAGE</p> <p>3 By Mr. Ewald                           6</p> <p>4</p> <p>5           * * * * *</p> <p>6 EXHIBITS                               PAGE</p> <p>7 Exhibit 1                               17</p> <p>8 Lizardite Standard</p> <p>9 Exhibit 2                               17</p> <p>10 Antigorite Standard</p> <p>11 Exhibit 3                               31</p> <p>12 Shu-Chun Su - "The Dispersion Staining Technique and Its</p> <p>13 Application to Measuring Refractive Indices of Non-Opaque</p> <p>14 Materials, with Emphasis on Asbestos Analysis"</p> <p>15 Exhibit 4                               31</p> <p>16 Shu-Chun Su - "Rapidly and Accurately Determining Refractive</p> <p>17 Indices of Asbestos Fibers by Using Dispersion Staining</p> <p>18 Method"</p> <p>19 Exhibit 5                               42</p> <p>20 Notice of Deposition</p> <p>21 Exhibit 6                               43</p> <p>22 PSC Objections to Updated Notice of Deposition</p> <p>23 Exhibit 7                               56</p> <p>24 Curriculum vitae</p>	<p style="text-align: right;">Page 5</p> <p>1 VIDEOGRAPHER:</p> <p>2 We are now on the record.</p> <p>3 My name is Maria Lima. I'm a</p> <p>4 videographer for Golkow.</p> <p>5 Today's date is May 2nd, 2024, and the</p> <p>6 time is 11:20 a.m. This remote video deposition</p> <p>7 is being held in the matter of Talcum Powder</p> <p>8 Litigation.</p> <p>9 The deponent is William E. Longo, Ph.D.</p> <p>10 All parties to this deposition are</p> <p>11 appearing remotely and have agreed to the witness</p> <p>12 being sworn in remotely. Due to the nature of</p> <p>13 remote reporting, please pause briefly before</p> <p>14 speaking to ensure all parties are heard</p> <p>15 completely.</p> <p>16 Counsel's appearances will be noted on</p> <p>17 the stenographic record.</p> <p>18 The court reporter will now swear in</p> <p>19 the witness.</p> <p>20</p> <p>21 WILLIAM LONGO, Ph.D.,</p> <p>22 the witness, after having first been</p> <p>23 duly sworn to tell the truth, the whole truth,</p> <p>24 and nothing but the truth, was examined and</p>

<p style="text-align: right;">Page 6</p> <p>1 testified as follows:</p> <p>2 EXAMINATION</p> <p>3 BY MR. EWALD:</p> <p>4 Q Good morning, Dr. Longo.</p> <p>5 A Good morning.</p> <p>6 Q It's been a while.</p> <p>7 A It has been a while.</p> <p>8 Q Okay. So let's get some of the</p> <p>9 logistics out of the way first.</p> <p>10 Well, first question is where are you</p> <p>11 today?</p> <p>12 A I am in -- I'm at the -- I'm at</p> <p>13 Materials Analytical Services, LLC, and I'm</p> <p>14 sitting in the second -- the small conference</p> <p>15 room.</p> <p>16 Q And is there anyone in the room with</p> <p>17 you?</p> <p>18 A Yes.</p> <p>19 Q Who?</p> <p>20 A Leigh O'Dell.</p> <p>21 Q Anybody else?</p> <p>22 A No.</p> <p>23 Q What --</p> <p>24 At least on the screen I see a number</p>	<p style="text-align: right;">Page 8</p> <p>1 analysis of fibrous -- fibrous talc and other</p> <p>2 information, William E. Longo, Ph.D., CEO, MAS,</p> <p>3 LLC, September 2nd, 2022.</p> <p>4 I'm fairly certain that this has</p> <p>5 been -- this has been provided in the past. And</p> <p>6 what we have here is, on table 2, is the RG-144</p> <p>7 Calidria spiked Johnson baby powder -- Johnson</p> <p>8 talcum powder samples where we did PLM analysis</p> <p>9 on the RG-144 spiked starting at table 2,</p> <p>10 .1 percent all the way down to .0001 percent.</p> <p>11 There's a typo there.</p> <p>12 Q Sorry. So the record's clear, what's</p> <p>13 the typo?</p> <p>14 A CSM, we also did a standard spike from</p> <p>15 .1 percent to .0001 percent, which that should be</p> <p>16 for the ISO. So this was our standardization on</p> <p>17 the number of structures of the Calidria going</p> <p>18 all the way down, and then we have some other</p> <p>19 information there that we've also provided.</p> <p>20 I have --</p> <p>21 Q Sorry, Doctor. Before we leave that</p> <p>22 one, I just want to make sure I understand the</p> <p>23 typo that you referred to on table 2, page 4, of</p> <p>24 this report. There's an extra zero on M65947?</p>
<p style="text-align: right;">Page 7</p> <p>1 of different stacks of paper. Can you generally</p> <p>2 describe for me what you have in front of you so</p> <p>3 I know what you have?</p> <p>4 A Well, I have the supplement expert</p> <p>5 report, MDL Johnson's Baby Powder, et cetera,</p> <p>6 et cetera, May 2nd, 2024, which just, on page --</p> <p>7 page -- on page 5, an overview, this supplement</p> <p>8 report was done to correct typographical errors</p> <p>9 involving the container calculations. And then I</p> <p>10 point out where those corrections were made and</p> <p>11 what was made. They're very minor, but there</p> <p>12 were some typos there on the number of</p> <p>13 containers. And that's the only thing I changed.</p> <p>14 Q Okay.</p> <p>15 MS. O'DELL:</p> <p>16 And, John, I will put that in the chat</p> <p>17 so you'll have it.</p> <p>18 MR. EWALD:</p> <p>19 Yeah. That'll be -- I was worried I</p> <p>20 was missing it. So, yes, that would be great to</p> <p>21 put it in the chat. Thank you.</p> <p>22 A I also have a report, PLM analysis,</p> <p>23 chrysotile RIs and structure size for MAS's</p> <p>24 RG-144 and SG-210 chrysotile standard in the</p>	<p style="text-align: right;">Page 9</p> <p>1 A It should be 0.001 percent, like the</p> <p>2 exact same number down there for the CSM.</p> <p>3 Q Okay.</p> <p>4 A That's one too many zeros there.</p> <p>5 Q Right.</p> <p>6 A And it's interesting. I always find</p> <p>7 that in the deposition when I'm explaining what</p> <p>8 we have.</p> <p>9 This was a -- we sent these in. I was</p> <p>10 just able to locate them, the request in the --</p> <p>11 it's the photographs for the lizard- --</p> <p>12 lizardite, which -- in 1.550, and the antigorite</p> <p>13 in 1.550 showing the difference that you get for</p> <p>14 chrysotile for that. That's a response to the...</p> <p>15 I also, starting over here, I have</p> <p>16 volume 69, second quarter, 2022, the published --</p> <p>17 the published paper for Dr. Shu-Chun Su in the</p> <p>18 journal called The Microscope, volume 69,</p> <p>19 hyphen -- I mean 69-2, pages 51 through 69, 2022,</p> <p>20 entitled "The Dispersion Staining Technique and</p> <p>21 Its Application to Measuring Refractive Indices</p> <p>22 of Non-opaque Materials, with Emphasis --</p> <p>23 Emphasis on Asbestos Analysis."</p> <p>24 And he gave a -- he had some</p>

<p style="text-align: right;">Page 10</p> <p>1 corrections in -- I think the following -- I 2 think the third quarter on the -- on the one 3 zero -- on the chrysotile. Yeah. Table 5, 4 conversion for chrysotile and Cargille, 1.550 5 corrected. 6 Okay. I have a document, big document 7 here, and this was stuff that was asked for in 8 the -- it's called a supplement expert report, 9 Comparison of RIs in chrysotile structure size, 10 Union Carbide SG-210 chrysotile products from the 11 Coalinga mine in California, Montana talc source 12 for both Gold Bond and Clubman body powder, 13 fibrous talc and reduced size NIST 1866b 14 chrysotile standard, October 9th, 2023. 15 Moving right along -- 16 Oh, I also have Dr. Su's handout that 17 he would -- when he inspected laboratories for 18 NVLAP, he would hand out a document called 19 "Rapidly and Accurately Determining Refractive 20 Indices of Asbestos Fibers by Using Dispersion 21 Staining Method." And this one is a revision of 22 2010-07-11. 23 I also brought along the ISO 22262-1, 24 Method Bulk -- Bulk -- you know, Bulk Material,</p>	<p style="text-align: right;">Page 12</p> <p>1 Asbestos -- next section is Asbestos in 2 talc fiber exposure tables, 1960 to 2000, Johnson 3 Baby Powder and Shower to Shower. 4 Then I have supplement expert report, 5 comparison of RIs in chrysotile -- chrysotile 6 structure size. Well, that's -- that's the 7 report part of that notebook. 8 The Valadez 228 analysis, that one 9 sample. I'll call it an off-the-shelf sample 10 that Joe Satterley sent me. 11 The report for Daniel Doyle, which, 12 again, was a analysis that was sent to me, I 13 believe, by Simon Greenstone. These were samples 14 that were analyzed for Chinese that were not in 15 the original MDL report. 16 What's next? 17 Analysis of Carolyn Weirick, 1.5-ounce 18 container. That came from Simon Greenstone. 19 Then I have analysis of 20 Johnson &amp; Johnson talc products for amphibole 21 analysis, expert report. Oh, this is an oldie, 22 July 2018. I'm seeing who this came from. Oh, 23 Simon -- that's another Simon Greenstone. 24 The --</p>
<p style="text-align: right;">Page 11</p> <p>1 Part 1. 2 Somewhere in here I have the EPA R-93. 3 Here it is. I brought that along in case we need 4 it for any reason. 5 I have a giant notebook that -- and 6 that's my reliance materials as a first section. 7 Then we have my testimony list. 8 You have this, I think; right? 9 Q Well, we'll get to it. I'm not sure I 10 have your most up-to-date stuff. But, yes, we 11 have a version. 12 A I have the fourth supplement report of 13 William Longo, April 29th, 2024. And this one 14 was where -- yeah. I had to make a few 15 corrections, I think, in that. 16 My CV. 17 Analysis of Tamara Newsome's Johnson's 18 Baby Powder container, 11-17-23. So that's the 19 report. 20 The third supplement MDL report, 21 11-17-23. 22 Analysis of J&amp;J's historical Imerys 23 railroad -- railroad samples that are in the 24 original February 1st, 2019, document.</p>	<p style="text-align: right;">Page 13</p> <p>1 Q Sorry. 2018 was a Simon Greenstone? 2 A Yes. 3 Q Okay. But it's amphibole? 4 A I didn't look at the results. 5 Q All right. 6 A Let me get past the chain of custody. 7 It was only for amphiboles. 8 Q Okay. And, just for the record, can 9 you give your internal control number, whatever 10 you call it, for that one? 11 A Oh. Our MAS lab tracking number? 12 Q Precisely. 13 A It's M68483. 14 Q Thanks. 15 A Then we have the Marie Cully supplement 16 report, M71046. And this was done on May 14th, 17 2020, revision 1. 18 I'll get the results and see what we 19 did. Oh. This went back -- this was -- went 20 back and did for -- for chrysotile. 21 Then we have Supplement Analysis Report 22 M- -- where is it? M71095. This is Janet 23 Tutley's JB container split, September 23rd, 24 2022, revision 2. And this was for chrysotile.</p>

<p style="text-align: right;">Page 14</p> <p>1 Where did we find it here? Analysis of talc 2 fibers as well. 3 Then we have Chinese talc analysis 4 report, revision 9-16-2022. Oh. These are -- 5 looks like it's M71109 to M71111. I believe 6 these are the -- the Chinese retains that we 7 received from -- 8 Who sent those to us? It might have 9 been either Seagrave or Sanchez, RJ Lee. 10 Then we have a supplement report 1, MAS 11 project M71166, off-the-shelf 2020 Johnson Baby 12 Powder talcum powder analysis. And these are the 13 ones that I purchased when they -- when the 14 product was still on the market. And they 15 came -- 16 Well, you can look at it. But I gave 17 you, you know, the M number. 18 Then we have the Shawn Johnson 19 Johnson Baby Powder analysis. That was the 10 20 containers that were purchased by Shawn Johnson's 21 mother and sent directly to us. 22 Then we have two Johnson Baby Powder 23 and one Gold Bond off-the-shelf containers from 24 Lucky's. And those would have come from Joe</p>	<p style="text-align: right;">Page 16</p> <p>1 And that's what's in that book. 2 Now, I just want to put this on the 3 record. It is my understanding that Judge 4 Wolfson excluded our PLM opinions about amphibole 5 asbestos during the Daubert hearing. While I 6 disagree that this -- this should have happened, 7 you know, what I would say about the PLM analysis 8 is that that hearing was four years ago, and 9 we've certainly advanced the science, advancement 10 in science on the PLM. I think some of the 11 issues she had I believe we've cured, you know, 12 but I'm always hesitant to violate -- violate 13 a -- a -- a -- a federal judge's order. So, you 14 know, I just have to go from there. 15 Q Okay. Thank you for that. And -- 16 All right. So first question after all 17 of that is the lizardite and antigorite 18 standards, you kind of trailed off, at least from 19 what I heard. Was that in response to recent 20 questions from my partner, Kevin Hynes? 21 A Well, I told Kevin Hynes I had them. 22 So, interesting enough, the -- the request for 23 them showed up in the deposition notice for here, 24 so I provided them.</p>
<p style="text-align: right;">Page 15</p> <p>1 Satterley, case of McLean, and it's M number 2 M71216. 3 The next one is Johnson Baby Powder 4 analysis, compiled notebook, 2-9-2021, MAS 5 project M71241. And these were all 2018 6 containers. And that means -- I think these were 7 ones that I purchased. Yeah. These -- these -- 8 these were purchased by me off -- off the 9 Internet from Ralph's, which is out in 10 California, I assume. 11 I also have in here the June 6th, 2019, 12 rebuttal expert report for the Prop 65. I don't 13 recall saying I was relying on this, but I guess 14 if you want to ask questions, that's fine. 15 Also, I have supplement report, two 16 off-the-shelf 2020 Johnson Baby Powder -- well, 17 Johnson Baby Powder analysis, MAS projects M71166 18 and M71180. These were containers purchased by 19 me from CVS in Suwanee, Georgia, and from 20 Walgreens from Johns Creek. And then I got a 21 sample in -- a full container from Target in Blue 22 Springs, Missouri. 23 The last one would be Linda Zimmerman, 24 supplemental analysis report, MAS project M70484.</p>	<p style="text-align: right;">Page 17</p> <p>1 Q All right. 2 A That was a long answer to your question 3 that should have been yes. 4 Q All right. And, so, you said you had 5 them. How long has -- 6 Well, let's first mark -- we'll go 7 ahead and mark as Exhibit 1 the -- 8 It's labeled the lizardite standard, 9 and Exhibit 2 will be the antigorite standard. 10 (DEPOSITION EXHIBITS 1 AND 2 11 WERE MARKED FOR IDENTIFICATION.) 12 MR. EWALD: 13 Q Doctor, the -- first, let's take 14 lizardite, Exhibit 1. How long has MAS -- 15 Let me rephrase that. 16 When was the lizardite standard created 17 by MAS? 18 A Well, it wasn't so much created. We 19 had lizardite and antigorite, as well as some 20 others, for a long time. In fact, we never 21 really ran into the issue. But soon as we 22 started identifying -- when we started 23 identifying chrysotile, these, of course, are two 24 polymorphs of chrysotile, and -- in the cosmetic</p>

<p style="text-align: right;">Page 18</p> <p>1 talc. I wanted to make sure that we weren't 2 misidentifying antigorite and/or lizardite and 3 see what the PLM ranges were for our standards we 4 had in-house. Because these standards have been 5 around for some time. We never really had to do 6 anything with them. But it was mostly for the 7 TEM folks to take a look at, if we needed to. 8 Now, when we did this would have been 9 back in 2020 or 2021. 10 Q And when you say -- 11 Hold on. This is always interesting 12 when you try to put something on screen. Let's 13 see how this goes. 14 Do you see the lizardite standard on 15 your screen, Doctor? 16 A I do. 17 Q All right. When you say you did this 18 in 2021, are you testifying that the document 19 that was marked as Exhibit 1 was created in 2020, 20 2021 time frame? 21 A Yes. Somewhere where we started 22 finding the -- the size of the -- size of the 23 chrysotile structures, I wanted to make sure we 24 weren't misidentifying the polymorphs. It's</p>	<p style="text-align: right;">Page 20</p> <p>1 fibrous talc misidentification. 2 Q To be so clear, because I wasn't sure 3 from your answer, what we've marked as Exhibit 1 4 that is -- hold on -- 5 images labeled "lizardite 5 standard," that was -- those images were created, 6 photographed in 2020, 2021 time frame? 7 A Yes, sir. 8 Q Okay. 9 A In 1.550. And these would have been 10 with the old microscopes. 11 Q And the -- you said you had the 12 lizardite, antigorite standards around for a 13 while. What is the -- what is the source of the 14 lizardite, antigorite standards? 15 A You know, it's been so long, I would 16 have to look it up and see if we actually -- what 17 the source was. I mean, I literally haven't 18 looked at these in two, three years. 19 If you'll notice, you know, a lot of 20 our reports, besides identifying chrysotile by 21 PLM, is also showing what the birefringence and 22 the difference in the fibrous talc. But we just 23 don't really run across these materials. 24 Number 1, antigorite, in the</p>
<p style="text-align: right;">Page 19</p> <p>1 either 2020 or 2021. And it was clearly that it 2 was different, so -- and because nobody 3 suggested, none of the defense experts suggested 4 that we were misidentifying either antigorite 5 or -- or lizardite, all -- all the -- all the 6 opinions that we were misidentifying fibrous talc 7 as chrysotile. 8 So we spent all our research time 9 looking at fibrous talc, looking at how the 10 birefringence is so different from chrysotile, we 11 just sort of stuck these away. 12 Now, if the defense experts' opinions 13 are now changing, that they want to abandon the 14 chrysotile, their opinions after two-and-a-half 15 years of saying we're misidentifying fibrous talc 16 for chrysotile, and now they're saying, well, 17 it's antigorite or lizardite, you know, that'll 18 be up to them to explain why they're changing 19 their minds. 20 So we just -- I just put them away and 21 kind of forgot about them. It wasn't until your 22 colleague asked about them and I go, "oh, yeah, 23 we've got those." But we've never really had to 24 do anything with them, because it was all about</p>	<p style="text-align: right;">Page 21</p> <p>1 Environmental Protection Agency book that has 2 been read back to me many times, in the section 3 called "Asbestiform, Nonasbestiform," in the 4 AHERA, and it says antigorite is the 5 nonasbestiform. 6 Well, we all know it can be fibrous 7 from time to time, but we haven't seen this in 8 the PLM analysis. So that's the reason it's 9 really never come to light, meaning it wasn't 10 really important, because this is not what we had 11 been accused of misidentifying. 12 Q Well, in your -- 13 Well, first of all, the -- in the slide 14 at the bottom, it says "antigorite" and, in 15 parentheses, "Ontario." Is it your understanding 16 that the standard for antigorite that MAS used 17 originated from Ontario? 18 A Yes. And that would -- 19 Well, so this -- I'm sure, you know, 20 the Ontario chrysotile up there is all 21 serpentine, originated from serpentine, and this 22 would be a serpentine. So that's my 23 understanding. It came from Ontario -- from the 24 Ontario mines up there.</p>



<p style="text-align: right;">Page 22</p> <p>1 Q And, so, we were looking at page 1 of 2 Exhibit 1 for lizardite. At the top we have RA 3 values of 1.567 to 1.585. That's what's written; 4 correct? 5 A Correct. 6 Q And is that your understanding of the 7 range of RI values for antigorite -- for 8 lizardite when looking at it in parallel 9 position? 10 A It's in that range of them. And, you 11 know, here we have the 1.67. You've got more of 12 the orangish-red. That's -- 13 And then on the upper side here, we've 14 got these whites in here. So that gives you the 15 1.585. If you were to average that, that's going 16 to be 6, 7, 10 -- yeah. That's gonna be in the 17 high 1.5 -- 18 Well, instead of me just guessing, it's 19 probably going to give you an average refractive 20 indices -- 21 1.567, 5 -- is 12 -- 7, 1.527 versus 22 1.585. I mean 80. So you're gonna be in the 23 1.5 -- let's see -- 9, 3, 8, 4, 7, 5, 6, 6. 24 1.8576. So that's outside the range we've ever</p>	<p style="text-align: right;">Page 24</p> <p>1 Q It's your testimony that when you 2 were -- when MAS was analyzing talc samples by 3 PLM for the presence of chrysotile, that you 4 referred to these lizardite and antigorite 5 samples? 6 A Yes. We took a look at this and go, 7 well, we're not seeing anything close to that. 8 Now, you may get -- 9 Because you've got, basically, very 10 close refractive indices on both the 11 perpendicular and parallel, but you've got the 12 wrong wavelengths. I mean, if you were to go 13 into the chart that likes to be shoved in my face 14 all the time for the ISO chart, when it says 15 1.550 for chrysotile and take a look at the 16 central stop data, and the -- you're gonna be -- 17 you're gonna be outside of the range. 18 Q Okay. And -- 19 A For the 1.56, you know, it's -- you're 20 not getting the same dispersion colors. 21 Now, we can argue over the gold and 22 yellow, et cetera, but you're not gonna find any 23 Calidria that looks like that. And, again, this 24 was just put away because it was never suggested</p>
<p style="text-align: right;">Page 23</p> <p>1 seen for chrysotile. 2 But, more importantly, if you go to the 3 perpendicular, no matter if you're -- you know, 4 you're always getting the blues, and we're not 5 here. We've got 1.563 to 1.582 -- 1.563, 82 -- 6 Two and 3, that's 5...and 1.645. 7 No. It's got to be harder than that. 8 Oh. 1.615. 9 Let me just do the math on the 10 calculator before I screw up. 11 Q Feel free. 12 A I didn't bring it. 13 Anyway, you're not getting any of the 14 what I would call the blues that you typically 15 see in 1.550, so you have -- you have -- your 16 refractive indices are way too high for it to 17 be -- 18 You're getting close now to what you 19 might see for talc. 63 to 82, you know, you 20 take -- you take the 1.585, it doesn't -- it 21 doesn't work. I mean, those colors, it doesn't 22 work. You know, I haven't done the math on it, 23 but the refractive indices are way too high to be 24 chrysotile. Way too high.</p>	<p style="text-align: right;">Page 25</p> <p>1 that MAS was misidentifying antigorite or 2 lizardite as chrysotile. It was all fibrous 3 talc. Fibrous talc. Or for the -- for the 4 experts who say there is no fibrous talc, it was 5 all talc plates on edge. 6 Q In any of your reports or analysis of 7 talc by PLM for chrysotile, did you reference 8 that you ruled out antigorite and lizardite as a 9 possibility? 10 A No. Because right off the bat we were 11 being accused of misidentifying it fibrous talc. 12 That's in -- just about in every report. Because 13 this is why they say -- 14 And then I was rebutting it as why 15 they're wrong. 16 Nobody has ever said that we're 17 misidentifying chrysotile for lizardite and 18 antigorite. And here is an interesting one, 19 because this lizardite actually has a few pieces 20 of -- 21 Since it's a polymorph, you can get 22 either or, or you can get a little bit of both. 23 We show -- can show the little pieces on here 24 where we have reddish-magenta to blue, which</p>



<p style="text-align: right;">Page 26</p> <p>1 pretty much would put it into the -- as 2 chrysotile. But the majority of it is not, you 3 know, because the majority of the rest of this is 4 the lizardite. 5 Q So this is, looking now at Exhibit 2, 6 you're describing slide 1, and the -- it's -- the 7 title of the slide is "antigorite standard." 8 Correct? 9 A Antigorite? I thought this was the 10 lizardite one? 11 Q You see at the top "antigorite 12 standard"? I'm not -- I'm just looking at what 13 you are telling me, Doctor. 14 MS. O'DELL: 15 You moved from Exhibit 1 to Exhibit 2. 16 MR. EWALD: 17 I did, yes. And I identified this as 18 Exhibit 2. 19 MS. O'DELL: 20 Okay. I just wanted to make sure we 21 were on the same -- 22 MR. EWALD: 23 Yeah. 24 A If you go down to the bottom --</p>	<p style="text-align: right;">Page 28</p> <p>1 A It's lizardite. If you look at -- 2 MS. O'DELL: 3 If I could -- 4 THE WITNESS: 5 I'm sorry. 6 MS. O'DELL: 7 I think this confusion, the files 8 were -- were -- the names were transposed. So 9 the file that says lizardite -- and Dr. Longo can 10 confirm this -- actually has antigorite, and the 11 file named antigorite actually has lizardite. So 12 just so -- 13 THE WITNESS: 14 We have the appropriate name on the 15 photographs. 16 MS. O'DELL: 17 Yes. The appropriate name's on the 18 photograph. 19 THE WITNESS: 20 My assistant, when I said please scan 21 these, got a little confused. 22 MS. O'DELL: 23 Yeah. So we correct that -- 24 MR. EWALD:</p>
<p style="text-align: right;">Page 27</p> <p>1 If you scroll up just a tad -- 2 There you go. Bundle of lizardite. 3 MR. EWALD: 4 Q Okay. So -- 5 And the record will reflect, one way or 6 another, I got these about, you know, a couple 7 minutes before the deposition, so I'm seeing this 8 for the first time. But, Doctor, all of these in 9 this -- we marked as Exhibit 2 that's labeled 10 "antigorite standard," these are all, in fact, 11 lizardite? 12 A Yeah. It's -- 13 You know, if you look at our PLM 14 analysis, we give you, you know, dispersion 15 staining, both, you know, perpendicular and 16 parallel. Then we do cross-polars. Excuse me. 17 Then we do elongation, then cross-polars and then 18 no pol- -- then no polars. That's pretty 19 standard of what we do for anything we're doing 20 with PLM. 21 Q Right. But what we're looking at here, 22 the images, even though the title says 23 "antigorite standard," what we're looking at are 24 images of lizardite. Fair?</p>	<p style="text-align: right;">Page 29</p> <p>1 That's fine. I'm just trying to make 2 sure the record's clear. I appreciate that. 3 So -- all right. 4 MS. O'DELL: 5 So, John, do you mind, for clarity, 6 (garbled Zoom) lizardite in Exhibit 2 is 7 antigorite, is what I heard earlier, and so the 8 record will reflect that the appropriate images 9 will go to that exhibit number. Sorry for the 10 confusion. 11 MR. EWALD: 12 That's okay. You did break up a little 13 bit there, but I think what you're saying is 14 however they're labeled or not, Exhibit 1 is, in 15 fact, antigorite standard, and Exhibit 2 is, in 16 fact, lizardite standard. Correct? 17 MS. O'DELL: 18 Either way. Just so it's clear. I 19 mean, you named the first one Exhibit 1 was 20 lizardite, and Exhibit 2 was antigorite. We just 21 need clarity that those are actually what's 22 being, you know (garbled Zoom) -- 23 MR. EWALD: 24 I know. And so what I'm saying is --</p>

8 (Pages 26 - 29)

<p style="text-align: right;">Page 30</p> <p>1 it is confusing. But for Exhibit 1, I marked  2 what was labeled lizardite standard but we've now  3 determined is, in fact, antigorite standard.  4 And, so, Exhibit 1 will be the antigorite  5 standard, and Exhibit 2 will be the lizardite  6 standard. Okay?  7 MS. O'DELL:  8 That's great.  9 MR. EWALD:  10 Great.  11 Q All right, Doctor. The two Su articles  12 that you mentioned that you had in front of you,  13 are those articles that you previously referred  14 to in litigation?  15 A Yes. One -- one is -- one is an  16 actually peer-reviewed publication, and that's  17 the 2022 one from -- in Microscope. And then the  18 other one is a handout he would typically give  19 out to labs that -- that just goes back to -- all  20 the way to, you know, 19- -- 1918? Not 1918.  21 1980s or so or '90s. And it is just a handout.  22 Essentially, some of the same information he has  23 in his publication, same charts, same look-up  24 tables, et cetera.</p>	<p style="text-align: right;">Page 32</p> <p>1 looked them up. But, yeah, we -- we've had a  2 number of these, but I didn't know if I had  3 the -- this was like almost -- yeah, the 2010  4 one. But they're all basically the same. So I  5 just put this one in as an example if we have to  6 discuss the -- what I would call is -- is  7 determining asbestos refractive indices by  8 dispersion staining, stages 4A and 4B, and  9 compare those to the tables that we produced --  10 not produced but he had a, you know, QR code on  11 his paper where you could download all the -- the  12 determining asbestos refractive indices for  13 dispersion staining either in Cargille E or  14 another type. And if you compare those two  15 charts or those two look-up tables, they are  16 literally identical.  17 Q And, so, then, in your -- I guess the  18 question is: In your view, what does what we  19 marked as Exhibit 4 add to the opinions you're  20 offering with respect to PLM and chrysotile?  21 A Well, first off, if we go to the -- if  22 we go --  23 Is Exhibit 4 the actual peer-reviewed  24 paper?</p>
<p style="text-align: right;">Page 31</p> <p>1 So, yes. So these are what I've been  2 relying on a while about Dr. Su.  3 Q Okay. And, so, we'll mark as Exhibit 3  4 the Su 2022 Microscope "Dispersion Staining  5 Technique and Its Application to Measuring  6 Refractive Indices of Non-Opaque Materials, With  7 Emphasis on Asbestos Analysis."  8 (DEPOSITION EXHIBIT NUMBER 3  9 WAS MARKED FOR IDENTIFICATION.)  10 MR. EWALD:  11 Q Doctor, is the highlighting that we see  12 on the version that I received yours?  13 A It is.  14 Q And, then, on Exhibit -- we'll mark  15 Exhibit 4 the -- also by Dr. Su, the "Rapidly and  16 Accurately Determining Refractive Indices of  17 Asbestos Fibers By Using Dispersion Staining  18 Method."  19 (DEPOSITION EXHIBIT NUMBER 4  20 WAS MARKED FOR IDENTIFICATION.)  21 MR. EWALD:  22 Q Doctor, on this one, is this a copy  23 that you had received at MAS?  24 A Well, I think I went and looked -- and</p>	<p style="text-align: right;">Page 33</p> <p>1 Q Exhibit 4 is the rapid paper. Exhibit  2 3 is the --  3 A Okay. Exhibit 3, we have been --  4 To verify that our refractive indices  5 for the chrysotile was in the range, what was  6 found for chrysotile, and not just have everybody  7 working off the 1866b National Institutes of  8 Standard Technology standard for chrysotile that  9 came from Black Lake area up in Canada --  10 And it was always pointed to that one  11 of the reasons we were misidentifying chrysotile  12 is that we didn't have -- we weren't getting the  13 same refractive indices that are for the NIST  14 1866b standard. And, so, when we start looking  15 at Dr. Su's Rapidly and Accurately Determining  16 Refractive Indices of Asbestos Fibers from --  17 actually gave out, we could see that the ranges  18 that we're finding were actually in his -- in his  19 charts.  20 But then it was stated that we were  21 misusing his -- that wasn't what it's for. So  22 now he publishes a paper, and on page 51 he says,  23 that highlighting there, "this paper presents a  24 practical procedure for the measurement. To</p>

<p style="text-align: right;">Page 34</p> <p>1 facilitate the analysis, two comprehensive suites 2 of precalculated look-up tables for the 3 conversion of the observed matching wavelength to 4 RI were constructed for the two major types of RI 5 liquids: Cargille" -- which we use, and then the 6 DRIMMC. 7 Well, it doesn't say anything in there 8 that these tables are only for cal- -- for 9 mathematical calculations or anything. And the 10 Exhibit 3 versus the Exhibit 4, they're 11 identical. 12 Also, I think very important -- 13 Let's see where that is. And, 14 hopefully, I can find it. Oh, here we go. 15 On page 56 of the document, "select a 16 proper RI liquid to mount the sample." People 17 have been asked repeatedly why did I change from 18 1.550 to 1.560? Well, if you read what he says 19 here for my highlight, he says "for high-accuracy 20 measurements such as a regulatory, legal, and 21 forensic analysis, et cetera, the rule of thumb 22 is to choose RI liquids as close as possible to 23 the refractive indices that will be measured. 24 For example" --</p>	<p style="text-align: right;">Page 36</p> <p>1 Now, he also produces a table of 1.565. 2 Oh, he doesn't have -- he has a 1.56, you know, 3 RI liquid. So we went to 1.560 based on this 4 statement right here from Dr. Su. That's the 5 main reason I rely on this, because here we 6 have -- we have a very -- you know, what has been 7 stated as a very knowledgeable scientist talked 8 about the higher refractive indices that we have 9 been seeing in gamma for the chrysotile finding 10 in the cosmetic talcs, as well as the chrysotile 11 Union Carbide product, SG-210. They're almost in 12 identical range. That's -- this is what I 13 primarily rely on for this particular 14 peer-reviewed publication. 15 Q The -- you just gave a range of what 16 refractive indices MAS -- the finding in its PLM 17 analysis of chrysotile J&amp;J products in the gamma 18 position as 1.56 to 1.569? Is that what you 19 stated? 20 A That's the typical range. Yes. One 21 time -- sometimes you'll see a 1.570 or 1.571. 22 Sometimes we'll see a 1.5- -- 1.559, 1.558. But 23 typically where we end up is that 1.560 up to 24 1.569. And that's why we chose the 1.560.</p>
<p style="text-align: right;">Page 35</p> <p>1 Now, I think this is the most important 2 statement in here. 3 -- "there are chrysotile minerals who 4 [sic] RIs are significantly higher than those of 5 the standard chrysotile from the NIST SR [sic] 6 1866 set." 7 And if you go down further, "in that 8 case, 1.55 -- 1.555 or 1.560, instead of the 9 1.550, RI liquid should be used to determine a 10 gamma." 11 Right here, one of the premier experts, 12 in his published peer-reviewed paper, is stating 13 that there will be higher -- significantly higher 14 refractive indices than found for the standard 15 chrysotile NIST. 16 In my opinion, this statement from a 17 peer-reviewed publication validates everything 18 I've been saying for the last two-and-a-half 19 years. 20 And because our average range of 21 refractive indices, RIs, are from about 22 approximately 1.560 to 1.569, sometimes 1.70, if 23 you average all our RIs out, we have a refractive 24 indice [sic] of 1.560.</p>	<p style="text-align: right;">Page 37</p> <p>1 It also was suggested -- well, it was 2 also stated by Mickey Gunther that we needed to 3 use a higher refractive indice [sic] fluid to 4 validate that we're finding chrysotile, as well 5 as Adam Seagrave. And can't remember if Sanchez 6 said it or not, Dr. Sanchez. 7 So to me, this validates what we were 8 doing, a published paper stating that we had the 9 appropriate -- that the higher refractive 10 indices -- 11 And, more importantly, it says here 12 "for higher-accuracy measurements." So now in 13 the 1.560, we're seeing more of the 1- -- of in 14 the low range of the chrysotile for the 15 birefringence, which it's supposed to be. So 16 it's more accurate using this. 17 So we're probably gonna try 1.565 at 18 some point, but we have to generate a table for 19 it. So I don't know when we'll do that. 20 Q When you say "generate a table," how 21 would you go about generating a table for 1.565? 22 A Same way Dr. Su did. Just calculate 23 it. You take -- 24 Q How do you calculate it?</p>

<p style="text-align: right;">Page 38</p> <p>1 A So you have 1.60 and you have a 1.550.  2 I think we have a 1.55 in here somewhere. But  3 you can just cal- -- you can just calculate it.  4 Alls you have to do is put all the parameters in,  5 you know, wavelength in. There's a simple  6 formula for it.  7 Now, you're gonna ask what that formula  8 is. I'm gonna look it up so I don't make a  9 mistake.  10 Q Okay. So, sitting here today, you  11 don't know what the formula is to create the  12 table for 1.565; correct?  13 A Well, I don't know it verbatim, and --  14 I can give you certain parts of it, you know.  15 You've got -- you've got to -- obviously, you've  16 got to have the wavelengths. You're gonna have  17 to have --  18 What is the other two variables? I  19 can't think. I'll know it pretty well when I put  20 a 1.565 table together, because that's probably  21 the better refractive fluid since the average of  22 what we're seeing is 1.565.  23 Q And I take it MAS would have to create  24 a table for 1.565 because you're not aware of</p>	<p style="text-align: right;">Page 40</p> <p>1 mentioned that this Exhibit 4 has the same tables  2 that come up on the QR code; correct?  3 A Correct.  4 Q Is there anything else with respect to  5 this article -- I'm sorry.  6 Well, withdrawn.  7 Is there anything else with respect to  8 what we marked as Exhibit 4 that you're relying  9 on for your opinions with respect to PLM  10 chrysotile analysis?  11 A Oh. 57.  12 Q And now we're back to Exhibit 3; right?  13 The 2022 article?  14 A Yes.  15 Q Okay.  16 A Constantly I have been shown one of  17 Dr. Su's handouts where he said stay away from  18 yellow. Don't do yellow. Stay away from yellow.  19 Bad, yellow.  20 And here we have, on page 57, for an  21 experienced analyst, one can assign the color to  22 be 4.60 [sic] nanometer if closer to golden  23 yellow or 480 nm meters if closer to orange. And  24 that's something I've been arguing about that.</p>
<p style="text-align: right;">Page 39</p> <p>1 anywhere in the published literature that such a  2 table exists?  3 A Well, I was just gonna go with, you  4 know, what Dr. Su did, just do the calculations.  5 Q But my question is --  6 A I'm --  7 Q Sorry. Go ahead.  8 A I have not seen a table for 1.565.  9 Q And we're looking at the part that you  10 highlighted here. It's on page 56, as you  11 mentioned, of what we marked as Exhibit 3. The  12 remains that you said you get the most often for  13 the RI in the gamma direction is 1.560 to 5 --  14 1.569, and everything from 1.561 to 1.569 is  15 above 1.560; correct?  16 A Yes.  17 And, as I was saying, the average is  18 1. -- the average comes out, typically --  19 I think I went through, you know, what  20 we saw for the SG-210, the average data we saw  21 for Gold Bond, and what we saw for the -- well,  22 Montana talc, primarily.  23 Q All right. The -- I just want to be --  24 before we leave what we marked as Exhibit 4, you</p>	<p style="text-align: right;">Page 41</p> <p>1 An experienced analyst can do this; that yellows  2 are not bad.  3 And, again, that goes -- that is  4 different than what he says in his handouts. So  5 it's a little confusing.  6 But I'm assuming that a peer-reviewed  7 publication is more authoritative than a handout  8 that -- given to PLM labs.  9 Let me see if there's anything else in  10 here that I find interesting. I think those were  11 the main points.  12 Q If we go to page 64 of Exhibit 3,  13 there's a table 6, and talks about selection of  14 DRIMMC immersion liquids for asbestos analysis.  15 You have some highlighting there, and you have  16 something that's circled with what appears to be  17 1.545. What are you indicating there?  18 MS. O'DELL:  19 Page 54, John? Is that right?  20 MR. EWALD:  21 Exhibit 3.  22 MS. O'DELL:  23 63.  24 MR. EWALD:</p>

<p style="text-align: right;">Page 42</p> <p>1 Page 64. It's Exhibit 3.</p> <p>2 A My copy doesn't have that, but I sent</p> <p>3 that electronically. I'm not sure why I put that</p> <p>4 1.545 on there. I'm looking at his charts and</p> <p>5 1.550.</p> <p>6 MR. EWALD:</p> <p>7 Q Okay. And, so, when on this chart</p> <p>8 you've highlighted, under the high accuracy</p> <p>9 required, regulatory, litigation, forensic,</p> <p>10 et cetera, for chrysotile in the gamma direction,</p> <p>11 it lists 1.550, 1.560; correct?</p> <p>12 A For routine samples. Then we have</p> <p>13 1.550, 1.560, and then it has a little asterisk.</p> <p>14 And if you go down to the bottom, "there are</p> <p>15 chrysotile minerals whose refractive indices are</p> <p>16 higher than those of the NIST SRM 1866</p> <p>17 chrysotile." So I don't see anything</p> <p>18 inconsistent there.</p> <p>19 Q All right. Let's mark as Exhibit 5 the</p> <p>20 updated Notice of Oral and Videotaped Deposition</p> <p>21 of William Longo, Ph.D., Duces Tecum, Notice to</p> <p>22 Preserve and Notice of Inspection. That will be</p> <p>23 Exhibit 5.</p> <p>24 (DEPOSITION EXHIBIT NUMBER 5</p>	<p style="text-align: right;">Page 44</p> <p>1 was -- there was an initial notice sent. There</p> <p>2 was some confusion on whether there was actually</p> <p>3 a second notice. So it's the same one yesterday.</p> <p>4 So --</p> <p>5 MR. EWALD:</p> <p>6 Q Okay. And, Doctor, if we go to the</p> <p>7 responses, you see, for example, on number 20, so</p> <p>8 we're at page 11, all materials related to your</p> <p>9 or your laboratory's testing of Johnson's Baby</p> <p>10 Powder or Shower to Shower, including but not</p> <p>11 limited to, and then it has a number of different</p> <p>12 specific subparts, the response states, after</p> <p>13 some objections, "without waiving said</p> <p>14 objections, any materials in response to this</p> <p>15 request have already been produced during the</p> <p>16 talcum powder litigation and, therefore, are</p> <p>17 already in the possession of defendants.</p> <p>18 Otherwise, Dr. Longo is not aware of any</p> <p>19 responsive documents."</p> <p>20 Did I read those sentences correctly?</p> <p>21 A You did.</p> <p>22 Q And, so, where the responses and</p> <p>23 objections state "otherwise, Dr. Longo is not</p> <p>24 aware of any responsive documents other than what</p>
<p style="text-align: right;">Page 43</p> <p>1 WAS MARKED FOR IDENTIFICATION.)</p> <p>2 MR. EWALD:</p> <p>3 Q And then I'll mark as Exhibit 6 the</p> <p>4 Plaintiffs' Steering Committee's Responses and</p> <p>5 Objections to the Updated Notice of Oral and</p> <p>6 Videotaped Deposition of William Longo, Ph.D.</p> <p>7 Duces Tecum, Notice to Preserve and Notice of</p> <p>8 Inspection.</p> <p>9 (DEPOSITION EXHIBIT NUMBER 6</p> <p>10 WAS MARKED FOR IDENTIFICATION.)</p> <p>11 MR. EWALD:</p> <p>12 Q Let me go ahead and share my screen.</p> <p>13 And, Doctor, what I put up here is the Exhibit 6,</p> <p>14 plaintiff's responses to the updated notice. Did</p> <p>15 you have an opportunity to review the updated</p> <p>16 notice of oral and videotaped deposition of</p> <p>17 yourself, notice to preserve and notice of</p> <p>18 inspection?</p> <p>19 A Yes.</p> <p>20 Q When did you review it?</p> <p>21 A Yesterday.</p> <p>22 Q And --</p> <p>23 MS. O'DELL:</p> <p>24 Just for the record, as you know, there</p>	<p style="text-align: right;">Page 45</p> <p>1 has already been produced in the talcum powder</p> <p>2 litigation," is that something that you agree</p> <p>3 with?</p> <p>4 MS. O'DELL:</p> <p>5 Just let me interject, just a brief</p> <p>6 objection. Number 1, I would add to this that</p> <p>7 we've provided a Dropbox with a number of</p> <p>8 materials in it, all of the materials that were</p> <p>9 listed on Dr. Longo's materials considered list,</p> <p>10 and we continue to add to that.</p> <p>11 So subject to that objection, with what</p> <p>12 the objection is, you're welcome to ask Dr. Longo</p> <p>13 specific questions. But the objections are the</p> <p>14 lawyer's objections, not Dr. Longo's objections.</p> <p>15 And, so --</p> <p>16 MR. EWALD:</p> <p>17 Right. And I appreciate that. But I'm</p> <p>18 not talking about objections. I'm talking about</p> <p>19 the statement in the document that Dr. Longo is</p> <p>20 not aware of any responsive documents other than</p> <p>21 what has been produced in talcum powder</p> <p>22 litigation.</p> <p>23 Q And so my question to you, Dr. Longo,</p> <p>24 is whether that is a true statement.</p>



<p style="text-align: right;">Page 46</p> <p>1 A That is a true statement.</p> <p>2 Q Okay.</p> <p>3 A Now, we have a chart of all our J&amp;J</p> <p>4 testing that has been provided to defendants. If</p> <p>5 I were to stack up the notebooks that -- you</p> <p>6 know, just -- just taking a look at the -- all</p> <p>7 the historic -- the J&amp;J historical samples, where</p> <p>8 we have 19- -- you know, 1960, 1970, 1980, 1990,</p> <p>9 2000s up to 2002 or 2003, and, before that, it</p> <p>10 was maybe 50-some samples from eBay, et cetera.</p> <p>11 And then after, you know, Johnson &amp; Johnson, the</p> <p>12 only additional samples we did -- because, you</p> <p>13 know, Johnson &amp; Johnson was in bankrupt [sic] for</p> <p>14 two years -- was the -- you know, the Alphadet --</p> <p>15 MS. O'DELL:</p> <p>16 Valadez?</p> <p>17 A -- Valadez -- excuse me -- was a</p> <p>18 sample, and a couple more for the -- for the MDL,</p> <p>19 for some of the containers for the -- you know,</p> <p>20 for this project. There's nothing else. We</p> <p>21 provided all the -- you know, all the selected</p> <p>22 area electron diffraction patterns, all the ADXA.</p> <p>23 There's nothing else.</p> <p>24 MR. EWALD:</p>	<p style="text-align: right;">Page 48</p> <p>1 it right there.</p> <p>2 So we consider SOPs confidential and</p> <p>3 company records. We don't turn over SOPs, and</p> <p>4 not too many experts do.</p> <p>5 Q Sorry, Doctor. I didn't follow -- I</p> <p>6 got the last part. But the part before that, you</p> <p>7 mentioned you're one of the few labs, something</p> <p>8 about turnover? I wasn't sure what you were</p> <p>9 talking about. Sorry.</p> <p>10 A I think we're one of the few labs that</p> <p>11 put a very extensive materials and methods</p> <p>12 section in just to go through each step of what</p> <p>13 we do. And using those materials/methods</p> <p>14 section, anybody could duplicate the analysis.</p> <p>15 Q And when you say materials and methods</p> <p>16 section, you're referring to the materials and</p> <p>17 methods section in your expert report; right?</p> <p>18 MS. O'DELL:</p> <p>19 Reports.</p> <p>20 A In every report we have. From</p> <p>21 receiving the sample to weighing it out, to --</p> <p>22 you know, through the -- out of the -- you know,</p> <p>23 through the muffle furnace to get rid of the</p> <p>24 organics, to weighing it, then going and doing</p>
<p style="text-align: right;">Page 47</p> <p>1 Q All right. Looking at request 31 in</p> <p>2 what we marked as Exhibit 6, it asks for all</p> <p>3 standard operating procedures (SOPs) maintained</p> <p>4 by your laboratory for testing bulk materials for</p> <p>5 asbestos by PLM, TEM, and SEM.</p> <p>6 And, Doctor, my question to you is:</p> <p>7 Does MAS maintain any standard operating</p> <p>8 procedures for the testing of talc samples by PLM</p> <p>9 for the presence of chrysotile?</p> <p>10 A No. We haven't finished the standard</p> <p>11 operating procedures because we keep doing</p> <p>12 research and changing slight -- slight</p> <p>13 conditions, so -- until we finally have.</p> <p>14 But what I may -- but what we do</p> <p>15 provide, in every analysis we do have chrysotile</p> <p>16 has materials and methods section that anybody</p> <p>17 can follow, and it doesn't really have --</p> <p>18 If we had written SOPs for every time</p> <p>19 we made a change, it wouldn't really change</p> <p>20 any -- it -- you know, it really wouldn't give</p> <p>21 any additional information. That's why I think</p> <p>22 we're one of the few laboratories, when they do</p> <p>23 an analysis, they actually put in every step they</p> <p>24 do. And for any changes, then we, you know, show</p>	<p style="text-align: right;">Page 49</p> <p>1 the heavy liquid spin time on the centrifuge, the</p> <p>2 name -- name and -- on what products we're using</p> <p>3 so they can buy the same products, the same</p> <p>4 centrifuge, if they'd like, et cetera, et cetera.</p> <p>5 So it's not inhibiting, in my opinion,</p> <p>6 any other experts from trying to do this work.</p> <p>7 And it must -- it must be okay, because</p> <p>8 Alan Seagrave has duplicated this method for</p> <p>9 using right out -- protocols right out of our</p> <p>10 paper, right out of our reports.</p> <p>11 Now, he didn't find chrysotile, and --</p> <p>12 but he never complained that there wasn't enough</p> <p>13 information for him to do this work, and that's</p> <p>14 a -- you know, that's a defense expert that</p> <p>15 actually did the CSM method.</p> <p>16 Q And I apologize. I'm not familiar with</p> <p>17 that. How -- how recently was that?</p> <p>18 A I have a report of his floating around,</p> <p>19 a couple of them. I don't know if I can put my</p> <p>20 hands on them or not. But if my client asks me,</p> <p>21 I will certainly look for it.</p> <p>22 Q And in looking at those reports where</p> <p>23 he didn't find chrysotile, what is your response</p> <p>24 to his conclusions?</p>

<p style="text-align: right;">Page 50</p> <p>1 A My response is, one, he didn't have the 2 right optical microscope. Two, he didn't bother 3 running any standards to show him what this 4 material looks like and how small it is, the 5 chrysotile. I think that is cata- -- that you 6 have to -- you have to look at something that is 7 similar to what you're trying to find because 8 it's so different than your usual asbestos-added 9 products, chrysotile products.</p> <p>10 Q And am I correct that your hypothesis 11 on why it's smaller is because of the milling? 12 MS. O'DELL:</p> <p>13 Object to the form.</p> <p>14 A That may be it. Certainly the Calidria 15 SG-210 has to be from milling. But that 16 certainly could be it.</p> <p>17 MR. EWALD:</p> <p>18 Q Well, are you also offering the 19 possibility -- 20 Withdrawn.</p> <p>21 Do you also hold up in the possibility 22 that the types of chrys- -- that the chrysotile 23 you are identifying in cosmetic talc is the 24 result of specific geographic -- geologic process</p>	<p style="text-align: right;">Page 52</p> <p>1 therefore, you want to use a double -- you want 2 to use a method to concentrate the needles to 3 make them visible so you can find it.</p> <p>4 Also, we, of course, have the document 5 showing that, one -- I think it was from the 6 Argonaut mine, where Johnson &amp; Johnson was trying 7 to develop a flotation or surfactant used in 8 their -- in their -- in their beneficiation 9 process where they float it up so that they could 10 remove chrysotile. And they did -- they actually 11 ran standards of it where they would put some 12 chrysotile in, have a standard, et cetera.</p> <p>13 And I think it was the Hammondsville 14 mine where they actually were developing -- they 15 said they were developing a -- a -- almost like 16 put it on sup- -- you know, I'll use a Trump 17 statement, you know -- warp speed to develop a 18 beneficiation method to remove the tremolite.</p> <p>19 Now, if there was no asbestos tremolite 20 in any of these mines in Vermont, why is 21 Johnson &amp; Johnson spending so much money to 22 figure out how to get rid of it? 23 But geologic- -- the geological 24 development of asbestos in -- in these mines is</p>
<p style="text-align: right;">Page 51</p> <p>1 in those areas?</p> <p>2 A That's out of my area. But if you look 3 at things like, for example -- 4 You know, I'll just give an example of 5 this. If you look at the Vermont mines, the 6 Vermont mines -- 7 And that's probably what we'll do next 8 at some point is go through the Vermont mines, 9 because, you know, that's where the genesis of 10 all this started about analyzing chrysotile. 11 There had to be a pretty good reason that 12 Johnson &amp; Johnson hired a well-known, prestigious 13 university or institute, the Colorado School of 14 Mines Institute, to spend a whole year developing 15 the method on and using Vermont talc to 16 determine -- they called it the double density 17 method.</p> <p>18 Now, they -- once they -- once they had 19 the full method, it was signed off by the 20 director of the Colorado School of Mines, it was 21 signed off by their chief scientist, they had in 22 there a statement that I have made many times, 23 which is finding asbestos in talc samples is like 24 looking for needles in a haystack. And,</p>	<p style="text-align: right;">Page 53</p> <p>1 not my area. My area is -- I don't really listen 2 to that, because I'd rather just do the testing. 3 And certainly when you've got a lot of 4 documentation that says it's -- they're trying to 5 get rid of the -- the disagreeable minerals or 6 something like that.</p> <p>7 You know, it's 12:30. I think we've 8 been going for like an hour and 15 -- 9 MS. O'DELL:</p> <p>10 Ten minutes?</p> <p>11 THE WITNESS:</p> <p>12 Yeah. And I don't know. You guys are 13 all East Coast time; right?</p> <p>14 MR. EWALD:</p> <p>15 Q I am.</p> <p>16 A You know, at some point, not this 17 point, but, you know, I want to take 20 minutes 18 or 30 minutes for lunch or something.</p> <p>19 Q I'm happy to take a break. I'm happy 20 to take as long -- whenever you want to take 21 lunch. It's up to everybody else, including the 22 court reporter.</p> <p>23 A I don't want to dictate when we're 24 gonna take lunch. I usually like to get the</p>



<p style="text-align: right;">Page 54</p> <p>1 feedback from the court reporter. That's the 2 most important person. 3 MS. O'DELL: 4 So let's go off the record. 5 THE WITNESS: 6 Okay. 7 VIDEOGRAPHER: 8 Going off record. The time is 12:31. 9 (OFF THE RECORD.) 10 VIDEOGRAPHER: 11 Back on record. The time is 12:41 p.m. 12 MR. EWALD: 13 Q Hey, Dr. Longo, have you issued any 14 invoices for your MDL work -- 15 Yeah. I'll start there. 16 Have you issued any invoices to 17 plaintiffs for your MDL work? 18 A I know I issued a retainer, and I think 19 there were some others. And been some refunds, 20 sort of. 21 Q All right. I'll have some more 22 questions about that. 23 MR. EWALD: 24 But first, I could have missed it,</p>	<p style="text-align: right;">Page 56</p> <p>1 (DEPOSITION EXHIBIT NUMBER 7 2 WAS MARKED FOR IDENTIFICATION.) 3 MR. EWALD: 4 Q Dr. Longo, do you have any papers, any 5 papers in process related to talc? 6 A I've not had any publications -- any 7 papers either accepted or rejected by any 8 journals. 9 Q Okay. Are you currently working on any 10 papers related to talc? 11 A And I apologize. I don't talk about 12 that. I went through the experience once of -- 13 I'm not accusing you guys. I'm just 14 extra cautious now. 15 A law firm hired some experts that knew 16 the editor to try to -- 17 Because the paper got accepted, but it 18 had not been published yet. 19 -- to reject the paper. Fortunately, 20 the editor didn't do that. So now I just -- 21 You obviously have a right to know if 22 I've had one accepted or rejected, and that 23 hasn't happened, anything to do with talc. 24 Q All right. The -- let me mark as</p>
<p style="text-align: right;">Page 55</p> <p>1 Michelle. Have those been produced? Leigh. 2 Sorry. Not Michelle. 3 MS. O'DELL: 4 I'm always happy to be mistaken for 5 Michelle. That's a compliment. 6 Yes, there were invoices produced in 7 the Dropbox. 8 MR. EWALD: 9 Q Well, then, we will get back to that 10 one. 11 On the CV, let me show you, Doctor, 12 what -- the last version I have. And again, 13 maybe I missed something that was uploaded. Is 14 there a way for me to determine whether this is 15 your current CV? 16 A You know, I have not updated it in a 17 while, so 03- -- 03-12-2020 is the -- the latest. 18 Q Okay. 19 A Has been the updated CV since almost 20 about -- going on over four years. I'd better 21 write something to put in it. 22 Q All right. So we'll mark as Exhibit 7 23 CV with the date, as Dr. Longo indicated, at the 24 bottom, updated March 12th, 2020.</p>	<p style="text-align: right;">Page 57</p> <p>1 Exhibit 8 what I have. It's a Johnson &amp; Johnson 2 reliance and review documents, Appendix A. 3 (DEPOSITION EXHIBIT NUMBER 8 4 WAS MARKED FOR IDENTIFICATION.) 5 MR. EWALD: 6 Q And what I show on that one is a date 7 at the bottom of April 23rd, 2021. Is that the 8 current one? 9 A It is. 10 Q All right. Then let's mark as exhibit 11 for -- 12 Well, let me ask you, Doctor, I -- 13 Hold one second. I'm downloading 14 something that was put into the chat by Leigh. 15 All right. Let's mark as Exhibit 9 the 16 forth supplemental MDL report by MAS dated April 17 29th, 2024. 18 (DEPOSITION EXHIBIT NUMBER 9 19 WAS MARKED FOR IDENTIFICATION.) 20 MR. EWALD: 21 Q And, then, Exhibit 10 will be the 22 supplement expert report that we received today 23 dated May 2nd, 2024, MDL Johnson's Baby Powder 24 Application Exposure Container Calculations for</p>

<p style="text-align: right;">Page 58</p> <p>1 Six Ovarian Cancer Victim Bellwether Cases.  2 (DEPOSITION EXHIBIT NUMBER 10  3 WAS MARKED FOR IDENTIFICATION.)  4 MR. EWALD:  5 Q Now, Doctor, I'm gonna spend some time  6 talking about what we marked as Exhibit 9, your  7 report, supplemental MDL report. So can you get  8 that in front of you, please?  9 A Is that this --  10 Yes. I have it in front of me.  11 Q Great.  12 And I'm also gonna just mark for  13 reference the MAS second supplemental report that  14 is dated February 1st, 2019.  15 (DEPOSITION EXHIBIT NUMBER 11  16 WAS MARKED FOR IDENTIFICATION.)  17 MR. EWALD:  18 Q And, Doctor, you made reference at the  19 beginning of the deposition about Judge Wolfson's  20 order. Are you intending to rely on the PLM  21 analyses that are contained in your February 1st,  22 2019, report?  23 A I would guess that's up to the current  24 judge to decide, because, as I understand it,</p>	<p style="text-align: right;">Page 60</p> <p>1 straightforward.  2 And we were using a heavy liquid  3 density separation that was published for  4 specifically amphiboles in cosmetic talc. That  5 was published by Dr. Alice Blount in 1991.  6 Also, the New York -- the State of New  7 York Environmental Laboratory, ELAP, proficiency  8 testing program, has a PLM method using heavy  9 liquid density separation for finding tremolite,  10 and -- and it's PLM. And those folks, they have  11 to put standards together and be inspected,  12 et cetera.  13 So the PLM method for amphiboles was  14 really something that was never at issue. It was  15 the TEM -- you know, it was -- really, for the --  16 for the hearing, it was all about asbestiform and  17 the TEM analysis. We really didn't get a chance  18 to talk much on redirect about the PLM analysis.  19 So -- so it's been published. It was all Blount.  20 And, you know, the only difference  21 between what our lab found and what Lee Poye's  22 lab found, you know, to me, that's just -- to me,  23 that's -- that's not a big deal. Certainly not  24 rely on the -- on the non- -- the non-heavy</p>
<p style="text-align: right;">Page 59</p> <p>1 that there's new science on that. And that was  2 all about the amphiboles. And, you know, we -- I  3 think that pushed the science along on the  4 chrysotile. So I think there's additional  5 science on this type of work. And that's about  6 all I can say about that.  7 Q And -- and I'm not asking you,  8 obviously, to take the lawyer, you know,  9 perspective or determining what the judge will  10 do, but do you -- is it your opinion that the  11 work you've done with PLM and chrysotile impacts  12 the reliability of the PLM amphibole testing  13 contained in your February 1st, 2019, report?  14 A I don't think it impacts it at all.  15 No. I've got, you know, Dr. Sanchez, who's a  16 critic of the chrysotile, testified, I think,  17 in -- I forget which court it was -- that he was  18 in agreement with the PLM analysis of the  19 amphiboles in the MDL samples.  20 So it's -- you know, it's an  21 interesting dilemma when a standardized technique  22 where there was really no criticism from any --  23 any experts about the PLM analysis for  24 amphiboles, that's fairly -- you know, that was</p>	<p style="text-align: right;">Page 61</p> <p>1 liquid density separation or et cetera. But to  2 me, it was -- it was not really a controversial  3 thing. It was kind of surprising. So, you know,  4 that's about all I can say about it.  5 But, you know, clearly, she -- you  6 know, she struck it, Dr. Wolfson.  7 MS. O'DELL:  8 Judge. Judge Wolfson.  9 THE WITNESS:  10 What did I say?  11 MS. O'DELL:  12 Doctor.  13 THE WITNESS:  14 Jesus.  15 MS. O'DELL:  16 Judge.  17 THE WITNESS:  18 All right. I've got to quit for today.  19 Just kidding.  20 MR. EWALD:  21 Q When you say that the PLM without heavy  22 liquid separation --  23 Let me withdraw the question.  24 You've indicated, I believe, that the</p>

<p style="text-align: right;">Page 62</p> <p>1 differences between the results between your lab  2 on the PLM without Blount separation and  3 Mr. Poye's lab at the time, J3, was not a big  4 deal. What do you mean by that?  5 MS. O'DELL:  6 Object to the form.  7 A Well, we -- we -- we had, you know,  8 increased the resolution of our -- our Olympus  9 microscope where we fitted it with a -- an  10 infinity objective lens and then put it all on a  11 high-resolution monitor with a high-resolution  12 camera and spent a lot more time analyzing  13 samples than you normally do.  14 You know, and then I had a -- I had a  15 discussion with Lee about it, what he did versus  16 us, and then his next deposition he said he  17 didn't recall that.  18 But then he said, oh, well, it must  19 have been when he called me, how I was so excited  20 about objective lens, new objective lens. I  21 mean, that's not really what the conversation was  22 about.  23 But it's not unusual for our laboratory  24 to find trace amounts in samples by PLM less than</p>	<p style="text-align: right;">Page 64</p> <p>1 analyzed something like three- or four hundred  2 vermiculite samples. And three- or four hundred  3 vermiculite samples were positive for tremolite.  4 And from there we went to PLM -- and we  5 knew it was there -- to look at its fibrous  6 content. So we had dedicated -- you know, we  7 have PLM analysts that were shown that it is  8 there, and they could find it at .1 percent or  9 .01 percent. So it's just something we routinely  10 did in the property damage litigation.  11 Now, we -- we moved that XRD up to our  12 Raleigh lab after that, and then when we sold the  13 Raleigh lab, it went with it. But it was such  14 that we did not need to use heavy liquid density  15 separation to find it by PLM because it was about  16 a .1 or .01 percent. Probably higher, but that's  17 what we would usually find.  18 Q And what time frame are we talking  19 about when you're doing that analysis or MAS is  20 doing that analysis?  21 MS. O'DELL:  22 Would you mind repeating that, John?  23 You didn't come through clearly.  24 MR. EWALD:</p>
<p style="text-align: right;">Page 63</p> <p>1 .1 percent, because we were routinely doing that  2 and developed a method to make it a little more  3 sensitive back in the day when we were involved  4 in property damage cases that were W. R. Grace's  5 vermiculite.  6 So you have -- you have a method that  7 is an official State of New York ELAP method  8 that's published. You have a method in a  9 peer-reviewed paper by Dr. Alice Blount using --  10 determining amphibole asbestos, tremolite, using  11 PLM and heavy liquid density separation, as well  12 as the ELAP program for New York. It's unclear  13 how it's not verified or unscientific. To me,  14 anyway.  15 Q The reference to your lab work with  16 vermiculite prior to working in talc litigation,  17 explain to me how that impacts your PLM work in  18 analyzing talc for the presence of asbestos?  19 A Because some of the vermiculite got  20 into the asbestos-added product, such as  21 W.R. Grace fiber, being MONOKOTE 3, or  22 U.S. Gypsum's Firecode V, type D, which both  23 contain Libby, Montana, vermiculite. And at that  24 point, we used to have an XRD system, and we</p>	<p style="text-align: right;">Page 65</p> <p>1 Sure.  2 Q What period of time was MAS doing the  3 vermiculite analysis that you were just referring  4 to, Doctor?  5 A Approximately 1991 to about 1995 or so.  6 Q And is -- is it your position, Doctor,  7 that that PLM work with vermiculite made it more  8 likely that your PLM analysis -- analyst would  9 detect asbestos at trace levels in cosmetic talc  10 samples?  11 MS. O'DELL:  12 Object to the form.  13 A No. I mean, you -- you would have to  14 have -- you would have to have -- you would --  15 Strike all that.  16 In my opinion, you have to have some  17 kind of standard to show you what it's looking  18 like so that you can understand that you're  19 dealing with things that are 10 microns in  20 length.  21 I think the average size we got with  22 SG-210 --  23 Now, I'm looking at the supplement  24 expert report, October 9, 2023, where we went</p>

<p style="text-align: right;">Page 66</p> <p>1 through this exercise.</p> <p>2 Where is it? I know it's in here.</p> <p>3 Chrysotile intergrowth standard. Bundle size,</p> <p>4 section 6. Here it is.</p> <p>5 The Calidria have the average length of</p> <p>6 8 microns and an average width of 1 micron.</p> <p>7 And if you go over here to Gold Bond,</p> <p>8 the average length of the chrysotile in the Gold</p> <p>9 Bond, which is Montana talc, was 9 microns, and</p> <p>10 the average width is 1.4 microns.</p> <p>11 MS. O'DELL:</p> <p>12 Dr. Longo, would you identify what</p> <p>13 pages you read from, for the record?</p> <p>14 A So I'm reading from pages -- page 4,</p> <p>15 .1 percent SG-210 spiked bentonite clay.</p> <p>16 And then I'm reading from page 5, which</p> <p>17 was analysis of Gold Bond, and it was eight</p> <p>18 samples.</p> <p>19 So, in my opinion, in order for you to</p> <p>20 know what to look for, you have to see something</p> <p>21 that's representative, that you know it's there.</p> <p>22 So you -- you take a chrysotile product that is</p> <p>23 in the similar size range, and you start looking</p> <p>24 at that first, just without anything so you can</p>	<p style="text-align: right;">Page 68</p> <p>1 because there was somewhat of a dispute that the</p> <p>2 structures in the Calidria RG-144 was gonna be</p> <p>3 less than -- the overall average would be less</p> <p>4 than 5 microns. And that turned out to be not</p> <p>5 true.</p> <p>6 But we also did an average, and I think</p> <p>7 the average was around 70 to 80. But we had very</p> <p>8 small stuff, too. So we were unable to work with</p> <p>9 that.</p> <p>10 But the SG-210 chrysotile really was a</p> <p>11 much better fit for what we were finding in the</p> <p>12 PLM.</p> <p>13 Q And that analysis, we are talking about</p> <p>14 the SG-210 as being a better fit, that was in</p> <p>15 September of 2022?</p> <p>16 A Yes. That's the one.</p> <p>17 Q Why did you spike Calidria .1 percent</p> <p>18 in bentonite and not talc?</p> <p>19 A Because I wanted it to be pure</p> <p>20 chrysotile. I didn't want anything interfering</p> <p>21 with it, such as, oh, you're -- that's probably</p> <p>22 talc that you're looking at. And bentonite clay</p> <p>23 doesn't have any talc in it. And, according to</p> <p>24 Mickey Gunther, Calidria doesn't have any talc in</p>
<p style="text-align: right;">Page 67</p> <p>1 get used to what the refractive indices are, as</p> <p>2 well as its size.</p> <p>3 MR. EWALD:</p> <p>4 Q So is it your testimony, Doctor, that</p> <p>5 before 2020, your PLM analyst had never come</p> <p>6 across Calidria?</p> <p>7 A I'm sorry. I didn't catch the</p> <p>8 question.</p> <p>9 Q Is it your testimony, Doctor, that</p> <p>10 before 2020, your PLM analyst had never analyzed</p> <p>11 Calidria?</p> <p>12 A No. We've analyzed Calidria in the</p> <p>13 past, because we've worked on that. But it was</p> <p>14 usually all RG-144, which we had five pounds of,</p> <p>15 and we did, you know, air samples.</p> <p>16 Now, if you go and look at what the</p> <p>17 average size is for RG-144, you get very small</p> <p>18 stuff, but you also get very large stuff.</p> <p>19 And I was just looking around for --</p> <p>20 Anyway, I'll find it.</p> <p>21 Q Okay.</p> <p>22 A We had done -- we had done just typical</p> <p>23 work of looking at what the average -- what the</p> <p>24 average size was for RG-144 for the bundles</p>	<p style="text-align: right;">Page 69</p> <p>1 it.</p> <p>2 So I wanted it to be something that,</p> <p>3 yes, this is definitely chrysotile, and it's a</p> <p>4 1.550, and this is -- and we're getting the same</p> <p>5 refractive indices in 1.550 that we were seeing</p> <p>6 for the chrysotile in the cosmetic talc.</p> <p>7 So it was eliminating all the potential</p> <p>8 confounding materials that could have been in</p> <p>9 there, like, oh, you're just looking at another</p> <p>10 talc fiber, as I say.</p> <p>11 Q As a new spike .01 percent of Calidria</p> <p>12 in bentonite?</p> <p>13 A I believe so.</p> <p>14 MS. O'DELL:</p> <p>15 Do you need to get that report?</p> <p>16 THE WITNESS:</p> <p>17 I've got it right here.</p> <p>18 MS. O'DELL:</p> <p>19 Okay. Good.</p> <p>20 A Yeah. On page 4, table 1, we have</p> <p>21 samples CSM .1 percent B, and B stands for</p> <p>22 bentonite clay.</p> <p>23 MR. EWALD:</p> <p>24 Q Let's make sure that you're now</p>

<p style="text-align: right;">Page 70</p> <p>1 referring to your October 9th, 2023, report. Is 2 that right? 3 A Yes. 4 Q All right. 5 A I think I have the same data in the -- 6 in the other one, too. 7 Q And which page are you on, sir? 8 A I'm on page 4. 9 Q All right. On table 1, I see on page 4 10 is .1 SG-210 spiked bentonite; right? 11 A Correct. 12 Q And, then, my question -- I'm sorry if 13 I'm misunderstanding -- did you spike .01 percent 14 or lower of Calidria in talc? 15 A Well, we have an analysis where we 16 spiked what we talked about, where -- 17 Let's see. I've already lost that 18 document. 19 -- where I said, oh, that's -- that is 20 an error, the 2022 one. 21 Q Okay. And in looking at it, Doctor, 22 I -- I mistakenly asked that last question. So 23 I'm not trying to cut you off on whatever you 24 want to tell me, but it wasn't my intent to ask.</p>	<p style="text-align: right;">Page 72</p> <p>1 Because chrysotile is only -- the only 2 thing in there at 1.550 are we gonna see the same 3 types of refractive indices we've been seeing in 4 the cosmetic talcs. 5 Q Fair to say, Doctor, that the 6 percentage chrysotile by weight that you are 7 finding with your PLM chrysotile method is levels 8 of order of magnitude lower than .1 percent? 9 A It is. But I guess I'm not explaining 10 myself very well. 11 Q Okay. 12 A It was not a study of how low or what 13 is our best detection limit for chrysotile in 14 cosmetic talc. This was all about the what are 15 the refractive indices for a chrysotile product 16 that would be in there without any fibrous talc, 17 without any platy talc, without any chrysotile 18 coming from the talc itself, and see how that 19 compares to what we're seeing in the cosmetic 20 talc. That was what this study is. 21 What you're asking about is what we're 22 in the process of doing now, where we have all 23 the way down to -- I think it is three zeros and 24 a one and maybe even further than that where we</p>
<p style="text-align: right;">Page 71</p> <p>1 So -- 2 A Okay. 3 Q We can -- we can get back to 2022. We 4 probably will. 5 But my question I intended to ask was 6 whether you had -- if MAS has spiked bentonite 7 with levels of Calidria below .1 percent. 8 A No. I don't believe so. I think that 9 was the only one we put together. 10 Q And why not? 11 A I want to say "what for?" We have 12 spiked talc with lower levels, and we also 13 have -- you know, just generated a new set of 14 Calidria SG-210 in talc going all the way down to 15 .000 -- maybe four zeros and a one that we'll be 16 working on to have a new standard for the -- for 17 that. But there's really no reason to. I just 18 was looking for something where you would easily 19 find the chrysotile, .1 percent, and you're in a 20 matrix that does not have any confounding 21 minerals in it, such as chrysotile, from the 22 standard or -- and/or talc plates and/or -- 23 This was to look at and go this will be 24 a clear indication that this --</p>	<p style="text-align: right;">Page 73</p> <p>1 have the standard made up, and we will be 2 analyzing those a little bit more robust than 3 last time -- some pictures of it, et cetera -- so 4 that we know what our detection limit is on the 5 PLM, the standard. 6 Q And that standard -- sorry -- that 7 you're referring to that's in the process, that 8 is a talc -- is it a J&amp;J talc sample? 9 A Number 13. 10 Q Okay. And you're talking about spiking 11 that J&amp;J talc sample with .0001 percent of 12 SG-210? 13 A Correct. All the way down to 0.0001. 14 And we have done the same thing with TEM, but 15 we've already got that data with the SG-210 to 16 see what our bottom line detection limit is. 17 Q When you say the same thing with TEM, 18 you're referring to the amphibole heavy liquid 19 separation method? 20 A Well, no. This -- the chrysotile 21 method. But we're not -- I'm not satisfied that 22 we have the most optimum method. So we're gonna 23 have to redo it when we finally develop the most 24 optimum method for extracting out the chrysotile</p>



<p style="text-align: right;">Page 74</p> <p>1 out of the cosmetic -- out of the talc plates and 2 fibrous talc. Getting close. 3 Q I'm sorry, Doctor. I'm confused. 4 The -- 5 You said earlier, you were talking 6 about you have done the level of detection 7 analysis for TEM. Did I hear that correctly? 8 A Using -- using SG-210. 9 Q And did that involve heavy liquid 10 separation? 11 A It did. But we're -- but we're -- have 12 a standard. We're using Calidria at concen- -- 13 at known concentrations so that we can have an 14 idea of what our percentage of recovery is. And 15 I'm not sure we have the exact right recipe for 16 the most -- the most efficient way to extract the 17 chrysotile out of the talc. 18 Q Is -- 19 What you're talking about is something 20 that's a work in progress that has not been 21 published; right? 22 MS. O'DELL: 23 I'm sorry, John. You didn't come 24 through clear. What did you say?</p>	<p style="text-align: right;">Page 76</p> <p>1 If you think about it, especially for 2 amphiboles, you have something that is 200 3 microns long, you can easily see that in PLM, but 4 that's gonna look like a log under TEM. It 5 would -- it would transverse the entire grid. 6 There's all -- been all kinds of 7 theories about why it is different, that it's too 8 big, you know, falls off, et cetera. So it's not 9 unusual to get different results. 10 Q I understand, Doctor. And I understand 11 the -- once it gets under the microscope, the 12 differences of what can be resolved. 13 My question is you're talking about the 14 recovery efficiency of the heavy liquid method. 15 Is that something that would differ when you also 16 put it under a microscope that is PLM or TEM? 17 A Well, it would affect both. Because 18 you want the most sensitive method you can have 19 on the detection limits. You know, it's not 20 gonna affect that you're not gonna see anything, 21 I don't think. I mean, we just don't know yet. 22 But I would like to start with going, okay, this 23 is the most efficient method to extract out the 24 chrysotile.</p>
<p style="text-align: right;">Page 75</p> <p>1 MR. EWALD: 2 Q Am I correct that what you are talking 3 about, Dr. Longo, has not been disclosed in 4 litigation yet; right? 5 A That's correct. 6 Q And is there any difference in your 7 mind on how the heavy liquid density separation 8 effectiveness would work in PLM as opposed to 9 TEM? 10 A Well, TEM, you're gonna be able to see 11 single fibers. PLM, you cannot. So you're 12 looking at two different populations of asbestos 13 structures. The only thing PLM can see is 14 bundles, and the bundles have to be about 15 anywhere from four-tenths to at least up to one 16 or two microns wide. Half a micron wide is 17 probably the smallest you can see. If you're 18 dealing with chrysotile, especially Calidria, the 19 average size of those are about .02 to .03. So 20 you -- you've got two different populations. 21 It's -- it has been -- it has been 22 known in the field -- in the scientific field 23 that your PLM results are never consistent with 24 your TEM results, because you're looking at --</p>	<p style="text-align: right;">Page 77</p> <p>1 Q Is it your testimony that, sitting here 2 today, MAS is not using the most efficient method 3 to extract the chrysotile? 4 MS. O'DELL: 5 Objection. Objection to form. 6 A MAS doesn't know that. We're using a 7 pretty efficient system right now that I think 8 we're getting -- you know, we're about there. 9 You know, I've always thought we were using the 10 most efficient system. But I want the -- I want 11 to know for a fact. And then, you know, we go on 12 to, you know, the TEM, too. 13 MR. EWALD: 14 Q And what is your current under- -- what 15 is your understanding of MAS's current efficiency 16 method for extracting chrysotile from talc? 17 A I can't -- I'm not gonna -- I can't 18 really say what our efficiency is, is it 90 19 percent, is it 80 percent. We still have a 20 little bit more work to do on it. 21 Q Okay. So, as you sit here today, you 22 can't testify as to what the average efficiency 23 of MAS's chrysotile extraction method is? 24 MS. O'DELL:</p>

<p style="text-align: right;">Page 78</p> <p>1 Object to the form. Asked and</p> <p>2 answered.</p> <p>3 A Again, it could be as high as 80 to 90</p> <p>4 percent right now. They would have to be -- go</p> <p>5 back over the data again.</p> <p>6 Q What's the lower range?</p> <p>7 A Oh, the lower range goes way back when</p> <p>8 when we were using, like, 2.72. And that was</p> <p>9 when we were trying to figure out why it was</p> <p>10 showing up in the pellet. I mean, we were still</p> <p>11 seeing it. It's not -- it's not that we're not</p> <p>12 identifying it in PLM. We were finding it and</p> <p>13 verifying it and had the right refractive</p> <p>14 indices, et cetera, et cetera. You just want to</p> <p>15 have the most efficient method if you're going to</p> <p>16 be quantifying it to some degree. And you also</p> <p>17 want, in TEM, you want to be able to say we have</p> <p>18 the method that gives us the highest sensitivity.</p> <p>19 But it wasn't going to affect our ability to</p> <p>20 identify it by PLM.</p> <p>21 Q That was a little unclear, Doctor. And</p> <p>22 I apologize. I'm sure it's my fault. Are --</p> <p>23 have you started -- has MAS started analyzing</p> <p>24 cosmetic talc for the presence of chrysotile</p>	<p style="text-align: right;">Page 80</p> <p>1 number of test results. Correct?</p> <p>2 A Correct.</p> <p>3 Q And, specifically, we have 43 analysis</p> <p>4 results by MAS for talc containers; correct?</p> <p>5 MS. O'DELL:</p> <p>6 Would you mind repeating that, please,</p> <p>7 John?</p> <p>8 MR. EWALD:</p> <p>9 Sure.</p> <p>10 Q If I'm looking at what was marked as</p> <p>11 Exhibit 9 --</p> <p>12 Maybe an easier way to do it is this.</p> <p>13 I'm looking at what was marked as Exhibit 9. If</p> <p>14 I go to the last two pages, Doctor, I see eleven</p> <p>15 test results for analysis of Chinese retains;</p> <p>16 right?</p> <p>17 A Correct.</p> <p>18 Q And then, preceding that, there's a</p> <p>19 list of 43 analysis results of J&amp;J talc products.</p> <p>20 Correct?</p> <p>21 A Correct. All sourced from Chinese --</p> <p>22 China, starting off with the 2004 --</p> <p>23 I think the highest ones we have in</p> <p>24 here is 2019 and 2018, which, of course, the 2018</p>
<p style="text-align: right;">Page 79</p> <p>1 using TEM?</p> <p>2 A We have not started analyzing any</p> <p>3 cosmetic talc Johnson Baby Powder samples using</p> <p>4 TEM.</p> <p>5 Q Is MAS analyzing any cosmetic talc</p> <p>6 samples by TEM for the presence of chrysotile?</p> <p>7 A I'm not saying we have, and I'm not</p> <p>8 saying we haven't. But that work right now is</p> <p>9 confidential.</p> <p>10 Q All right. So, Doctor, we have the</p> <p>11 test results that are reported in your February</p> <p>12 1st, 2019, report that addressed the amphibole</p> <p>13 analysis and the PLM --</p> <p>14 Well, withdrawn.</p> <p>15 We have the results, test results, of</p> <p>16 MAS's analysis through PLM and TEM of J&amp;J samples</p> <p>17 for the presence of amphiboles in the February</p> <p>18 1st, 2019, report; right?</p> <p>19 A Correct.</p> <p>20 Q All right. So I want to leave that</p> <p>21 aside for the moment. And when we're looking at</p> <p>22 Exhibit 9, the fourth supplemental report, there</p> <p>23 is a set of tables at the end of the report that</p> <p>24 list a number of samples. I'm sorry. List a</p>	<p style="text-align: right;">Page 81</p> <p>1 ones finding chrysotile --</p> <p>2 I think they were 2018.</p> <p>3 -- would be consistent with the FDA's</p> <p>4 analysis of off-the-shelf Johnson Baby Powder</p> <p>5 from Guangxi that AMA found. Out of the bottle,</p> <p>6 there was three splits, and two of them were</p> <p>7 positive for chrysotile.</p> <p>8 So they weren't using heavy liquid</p> <p>9 density separation, but they certainly were</p> <p>10 verifying that there is chrysotile in Guangxi,</p> <p>11 Guangxi mine. That's not the Guangxi mine.</p> <p>12 That's -- that is the province. There are about</p> <p>13 four mines there that have been used over time.</p> <p>14 Q All right, Doctor. I just want to make</p> <p>15 sure the record's clear. This list also</p> <p>16 contains, on the previous page, three Vermont</p> <p>17 samples; correct?</p> <p>18 A Oh, yeah. I forgot about that. I</p> <p>19 missed it when I was going through. Yeah, three</p> <p>20 Vermont samples that we found chrysotile, I</p> <p>21 think. Oh, there they are. Samples 1, 2, 3, the</p> <p>22 Weirick, Zimmerman, and Colley.</p> <p>23 Q All right. And, so, that actually,</p> <p>24 when you add up the chrysotile -- I'm sorry --</p>



<p style="text-align: right;">Page 82</p> <p>1 the China with the Vermont bottles listed here in  2 your report, you get 46 bottles that have been  3 analyzed that are included in this report;  4 correct?  5 A Correct.  6 Q And combining the test results that are  7 included within your February 1st, 2019, report  8 and what we just looked at in your fourth  9 supplemental MDL report, are those the MAS  10 testing that you are going to be relying on for  11 your opinions in the MDL cases?  12 A Well, I would be relying on them  13 showing the advancement in science on PLM  14 analysis that was not there four years ago.  15 For the amphibole analysis, we have  16 very -- yeah. We -- most all those PLM samples  17 have TEM samples along with it that show that  18 it's positive.  19 And, plus, we, of course -- you know,  20 if you're looking at Daubert, I guess, for the  21 amphibole asbestos, it's been published in the  22 peer-reviewed literature by a scientist that was  23 consulting for Johnson &amp; Johnson who published a  24 paper showing that there was asbestos, amphibole</p>	<p style="text-align: right;">Page 84</p> <p>1 published it. But, in my opinion --  2 And it's -- I mean, it's not -- it's  3 almost facts instead of opinion. You know, the  4 documents that were released by Johnson &amp; Johnson  5 I believe proves definitely that this was a  6 method that they did not want to have out there,  7 going all the way from --  8 Is this where I have it? No. It's the  9 other one.  10 Excuse me for fumbling around here.  11 Q That's okay.  12 A So if you go to the April 29th  13 report --  14 And where are we here on this? I  15 thought I had it in here.  16 Oh, here we go.  17 If you go to the discussion/conclusion  18 section on page 3 of the April 29th, 2024,  19 report, it goes into development of this -- of  20 this procedure starting on page 3, you know,  21 Colorado School of Mines with HLS sample  22 preparation.  23 And, then, as we move along on what  24 they did, on December 27th, 1973 --</p>
<p style="text-align: right;">Page 83</p> <p>1 asbestos, and talked about heavy liquid density  2 separation and so many top plates, et cetera,  3 et cetera, plus that.  4 And, again, the CSM method, not a Longo  5 method -- this is the Colorado School of Mines  6 method, and they showed positive results. But  7 the analysis is a lot the same, because they're  8 basing their chrysotile identification on the  9 refractive indices of the product. They're doing  10 PLM on it and they're doing -- they're developing  11 refractive indices for the analysis.  12 So, no. Has it been published in the  13 peer-reviewed literature? In my opinion, it  14 probably would have if it wasn't deep-sixed, in  15 my opinion, by Johnson &amp; Johnson.  16 Q Do you have any basis --  17 Well, are you willing to testify, to a  18 reasonable degree of scientific certainty, that  19 the Colorado School of Mines' PLM chrysotile  20 heavy density liquid separation analysis was not  21 published because of actions taken by  22 Johnson &amp; Johnson?  23 A You know, you have a good point. I  24 don't know if Johnson &amp; Johnson would have</p>	<p style="text-align: right;">Page 85</p> <p>1 Okay. I'm gonna read here this.  2 "Colorado School of Mines prepared the following  3 report for Johnson &amp; Johnson. A procedure to  4 examine talc for the presence of chrysotile,  5 tremolite-actinolite fibers for project C10704,"  6 and then it goes on to say "this CSM report  7 provides the methodology using double-density  8 heavy liquid separation for chrysotile and  9 amphibole asbestos. It reports detection limit  10 of 10 ppm" -- and they've got it at .0001  11 percent -- "and verification of asbestos type  12 after separation."  13 And, as I talked about earlier, if you  14 go to page 6, they used -- they use a sentence  15 here that I've used in court and before. "The  16 impurity level becomes very low, a double less  17 than 1 percent. It is necessary to examine  18 amounts of sample -- examine amounts of sample in  19 order to detect the impurity. As a result, the  20 requirement to detect the proverbial needle in  21 the haystack, we have involved a procedure which  22 preconcentrates the impurities prior to  23 examination. The net effect is that a large  24 initial sample is fractionated in order to reject</p>

<p style="text-align: right;">Page 86</p> <p>1 the majority of further examination." 2 Now, if we go down, here's Johns 3 Manville asking this about it. "Another 4 indication of how confident the CSM was in their 5 double density separation method is that they 6 informed Johns Manville they thought this heavy 7 liquid separation method they developed was good 8 enough to be considered for a patent." 9 And I won't go through all of this. 10 But here's why I think, in my opinion, that they 11 pretty much shelved this method. And this comes 12 from a... 13 Okay. If we go to the next page, I 14 mean, here is we have "Johns Manville is 15 interested in this material." 16 If you go down under October 29th, 17 1973, letter, "specifically, we are interested in 18 your advanced technology used to separate felted 19 masses of asbestos by heavy liquid separation 20 proprietary [sic] to stain -- before staining 21 chrysotile by iodine as worked out by Morton 22 Baker of Johns Manville." He goes on. He says 23 "I understand your position completely on 24 specific techniques being worked for other</p>	<p style="text-align: right;">Page 88</p> <p>1 court that needle-in-the-haystack reference 2 before; right? 3 A Well, yes. I used it as an example 4 to -- to -- to help the jury understand what 5 heavy liquid density separation is. 6 Q Right. And, for example, you used 7 that -- 8 Sorry. 9 A When I couldn't -- 10 Q And, for example, you used that in the 11 England trial with Mark Lanier; correct? 12 A Yes, sir. And this was before I saw 13 these documents. 14 Q So when you were using the 15 needle-in-a-haystack example, your testimony is 16 you had never seen the Colorado School of Mines 17 document with it referring to needle in the 18 haystack? 19 A No. If I had -- if I had seen this 20 back in the Ingram, things would be different. I 21 would have started right off on trying to go 22 after the chrysotile. 23 Q So did you come up with needle in a 24 haystack or did Mr. Lanier come up with needle in</p>
<p style="text-align: right;">Page 87</p> <p>1 companies which are proprietary and, as you 2 indicated, will probably be patented." 3 So it must have been a pretty good 4 sample if they're thinking about patenting it. 5 Now, we go to page 7 and we look at -- 6 and I go in and say why I think it was never used 7 is that Dr. Nashed of J&amp;J received this report on 8 May 23rd, 1973, in which it states "the 9 limitation of method is that it may be too 10 sensitive." 11 Then we have a February 18th, 1975, 12 memo to Dr. Rolle where he states "I have also 13 enclosed our test method for the proposed X-ray 14 technique which was drawn out by Boots L-e-d 15 [sic] in conjunction with Dr. Pooley." 16 The Yardley method is essentially 17 another heavy liquid density separation method. 18 In here he states "we deliberately have not 19 included a concentration method, as we felt it 20 would not be in the worldwide company interest to 21 do this." 22 Q All right, Doctor. So you said a lot 23 of stuff there, but you mentioned at the 24 beginning of that discussion that you'd used in</p>	<p style="text-align: right;">Page 89</p> <p>1 a haystack? 2 MS. O'DELL: 3 Object to the form. 4 A No. I was looking -- I think it was 5 me. I was looking for a way to easily explain to 6 a jury what heavy liquid density separation is. 7 Now, you have hay, which would have a 8 density much lower than needles or steel. Those 9 float. The needles go to the bottom. And you 10 can just -- you know, if you hold up your water 11 bottle and you go, now, if my needles are down 12 here and I can just top this off, I can open 13 this, out they come, while all the hay stays up 14 here. 15 MR. EWALD: 16 Q So -- 17 A If he came up with it, I told him. 18 Q Okay. 19 A I'm just kidding. 20 Q So we're coming up pretty close to an 21 hour, but I do want to finish some quick hits. 22 A You've probably got some questions 23 about this. 24 Q So before that last discussion, you</p>

<p style="text-align: right;">Page 90</p> <p>1 mentioned J&amp;J consulting -- consultant publishing 2 peer-reviewed literature, something about the 3 concentration method. What are you referring to? 4 A Well, I -- I withdraw the "published." 5 What I'll not withdraw is they had a perfectly 6 good method -- I mean, they had positive 7 results -- that after 1974 was never mentioned 8 again. In the mid-'70s, they're hiring experts 9 like, you know, McCrone and others, to start 10 looking for asbestos. They never told them about 11 this heavy liquid density method that the 12 Colorado School of Mines developed, and they 13 never put it in their own protocol for J&amp;J for 14 their TEM method, 70042 or 70024, one of those 15 numbers. You know, it was all your regular 16 dilution method, which gives you horrible 17 detection limits. 18 You know, the heavy liquid density 19 allowed us to get detection limits of anywhere 20 from, you know, 8- or 9,000 to 10,000, where all 21 the TEM methods out there have detection limits, 22 depending on how many grid openings they look at, 23 anywhere from 5 to 6 million up to 15 million 24 fiber bundles per gram to find one.</p>	<p style="text-align: right;">Page 92</p> <p>1 an advancement of science with respect to PLM 2 analysis over the last four years. What 3 advancements are you referring to over the last 4 four years that weren't there when Judge Wolfson 5 issued her opinion? 6 A One, the big advancement is finding 7 chrysotile. It's using better, little optical -- 8 PLM optical microscopes, a better resolution. In 9 fact, we haven't incorporated it yet, but Leica 10 came out, first over, a central-stop dispersion 11 objective lens, which is normally 10X is now 12 400X. But I'm in the process of validating it. 13 We -- we have -- we didn't have, you know -- 14 Judge Wolfson, we weren't doing 15 chrysotile at all. We were able to find 16 references of the standard PLM methods that have 17 come out that I wasn't aware of the ELAP, New 18 York, you know, environmental laboratory for 19 sufficiency testing for doing heavy liquid 20 density separation for amphiboles where they 21 called the heavy liquid anything higher than 2.76 22 or 2.7. 23 We had much -- you know, we had much 24 better equipment, and really, the -- the PLM</p>
<p style="text-align: right;">Page 91</p> <p>1 When FDA was struggling with their -- 2 they want to develop a heavy liquid density 3 separation and sending out notices and -- and, 4 you know, and all the documents I got about FDA 5 trying to do this in '74, '75 -- sorry -- '71, 6 '72, they didn't have any luck. They weren't 7 technically good enough to make their own heavy 8 liquid density, and they're putting it out there 9 for people to see. Johnson &amp; Johnson's looking 10 at it and not saying a word. 11 Johnson &amp; Johnson didn't -- did not 12 instruct the RJ Lee lab to use heavy liquid 13 density separation in their analysis to show 14 that, if there's amphibole asbestos in there or 15 not. You know, there's one reference to using 16 Blount's method for TEM, not for J&amp;J, for some 17 other product. So RJ Lee certainly knew about 18 it. 19 So that's why I say they did not 20 provide that to any consultants. And, to me, it 21 feels like they were keeping this a secret 22 because it was too sensitive, like they state in 23 their memo. 24 Q You also mentioned that there have been</p>	<p style="text-align: right;">Page 93</p> <p>1 analysis that we were using, the protocols have 2 been around for years and years and years. 3 It's -- it shouldn't be a method that is 4 disputed. 5 Now, there is -- you know, people are 6 looking at that, so -- and, you know, to be fair, 7 Judge -- Judge Wolfson, we didn't really have a 8 chance to address much of anything in the hearing 9 for redirect. It was cut off. I think if we had 10 a chance to have 20, 30 minutes on redirect in 11 that hearing, we could have answered some of 12 those questions. 13 Q All right. We've been going about 14 another hour. 15 A Yeah. If we could take, like, a 16 20-minute, 30-minute lunch. 17 Q Okay. Let's go off the record first. 18 VIDEOGRAPHER: 19 Okay. Off record. The time is 20 1:39 p.m. 21 (OFF THE RECORD.) 22 VIDEOGRAPHER: 23 Back on record. The time is 2:19 p.m. 24 MR. EWALD:</p>

<p style="text-align: right;">Page 94</p> <p>1 Q Okay, Doctor. Back from lunch, and I 2 wanted to follow up on one of the things that I 3 asked before the break. And we talked about the 4 reports -- I'm sorry -- the analysis of bottles 5 that are identified in your fourth supplemental 6 MDL report. And am I correct that there have 7 been additional MAS PLM chrysotile tests of J&amp;J 8 talc products after the reports listed in 9 Exhibit 9? 10 A Other than what we have here, I'm not 11 aware of any. 12 Q Well, for example, the Henderson or 13 Kirch? 14 MS. O'DELL: 15 I don't know what you're referring to. 16 MR. EWALD: 17 Q Do either of those names ring a bell, 18 Doctor, Henderson -- 19 A No. Because I don't remember issuing 20 any more reports. Now, I -- I don't recall 21 issuing any more. But if -- if one -- 22 Q And maybe it's something we can, you 23 know, take a look at on tomorrow. But the -- 24 A Yeah, if you have them and have an M</p>	<p style="text-align: right;">Page 96</p> <p>1 haven't -- we haven't updated the chart in a 2 while. 3 Q Okay. 4 A Which needs to be -- it needs to be 5 done. 6 Q From a procedure perspective, how the 7 CSM procedure that MAS is doing is conducted, has 8 it changed, to your knowledge, since the Newsome 9 report, which is the last one in the end of 2023? 10 A No. We have the density of 2.65. We 11 have the -- the refractive indice [sic] fluid is 12 1.560, and the amphibole PLM analysis is still 13 the same, you know, from the ISO 22262-2 method 14 where we're using 2.85 for the TEM. 15 And for the New York ELAP method, it 16 states that it has to be greater than 2.75 or 17 2.76, and we're using 2.78. And that hasn't 18 changed for a while. 19 Q Your -- 20 Do you remember being deposited in the 21 second-day session in the Clark, New Jersey, case 22 by my colleague, Kevin Hynes, last month? 23 A I remember that. 24 Q Has there been any developments in</p>
<p style="text-align: right;">Page 95</p> <p>1 number, I'll -- I'll check. 2 Q Okay. So, for the record, there's one 3 that appears to have been issued shortly after 4 the Newsome -- 5 Newsome analysis, I believe is the last 6 one, by M number, on your chart, and I have a 7 Janine Henderson that was MAS project number 8 M71730. 9 MS. O'DELL: 10 Would you mind giving us that number 11 again, please? 12 A I've got it. M71730. 13 MR. EWALD: 14 Q It was issued on, according to the 15 front page of the report, 11-28-2023. 16 And then I believe the only other one 17 that I'm aware of but I didn't see was one that 18 was issued in February of this year in the Kirch 19 case, Michelle Kirch, which is M number M714 -- 20 oh, sorry. M71740. 21 A Well, you've got the M numbers, 22 et cetera. I certainly wouldn't disagree with 23 that. I just had no recollection that we had 24 more work. But I will dig those up. Because we</p>	<p style="text-align: right;">Page 97</p> <p>1 MAS's PLM chrysotile method since the beginning 2 of last month, April of 2024? 3 A No. We're still doing the same thing 4 for PLM. 5 Q Okay. 6 A That doesn't mean, you know, in a week 7 or two, you know, we'd make another modification. 8 Q Right. And I guess it's a -- more a 9 legal question than a question for you on where 10 the disclosure times end on the MDL. So I don't 11 need to get into that. 12 What I want to talk about is, for lack 13 of better phrase, the origin story of MAS and the 14 PLM chrysotile work. So walk me through when MAS 15 first started working on trying to come up with 16 the PLM chrysotile method. 17 A It initially started February 4th, 18 about two -- about four or five weeks before 19 February 4th, 2020, where, when we first -- must 20 have been around that time I came across the 21 Colorado School of Mines. Because we initially 22 started using what they said they did, is use 23 iodine, which will bind to chrysotile and not to 24 talc.</p>

<p style="text-align: right;">Page 98</p> <p>1 Now, you know, maybe it wasn't really 2 clear it would bind to the polymorphs or not. 3 Then they would use that and take their samples 4 and then go look at PLM. 5 So we started doing that, and it worked 6 great with the NIST 1866b standard. I mean, it 7 would turn a brownish-blue, and you could pick it 8 right out of the black. 9 What we didn't count on initially is 10 the size of the structures. The -- the size of 11 the chrysotile being found in the talc was too 12 small to absorb any of this iodine at enough that 13 you could actually see it. 14 So there was a misconception initially 15 that we were using the iodine to identify 16 chrysotile. That was not really -- that was 17 never the reason. 18 Colorado School of Mines says this was 19 an easy way to see what you were looking for than 20 to grab and take it and go get PLM and verify 21 it's chrysotile. 22 So we had to stop that, and we had used 23 the -- we had used it on some standards, the 24 1866b standards, and I believe that the FDA</p>	<p style="text-align: right;">Page 100</p> <p>1 point where they could find it without heavy 2 liquid density separation -- 3 And it was very puzzling because the 4 CSM method was showing lower results half the 5 time than the ISO method without any heavy liquid 6 density separation. But most of the time, it 7 showed a higher percentage of smaller -- smaller 8 structures. 9 Say you would have a concentration of, 10 you know, .001 or .005 for the ISO method without 11 heavy liquid density separation, and then the CSM 12 method, which is supposed to be more sensitive, 13 you know, you might have a .003, lower amount, 14 but you had more structures, more small 15 structures. 16 It was kind of baffling for a little 17 while, until we looked -- went and looked in the 18 pellet. And there was more in the pellet than 19 there was in the light fraction, which made no 20 sense. 21 Came up with various theories on why, 22 but, at the end of the day, it just was about how 23 long you spin it. That's why I saw the time jump 24 up to 72 hours.</p>
<p style="text-align: right;">Page 99</p> <p>1 showed some of that, as well as talking about 2 the -- the heavy liquid density for amphiboles, 3 both PLM and -- and TEM, and also showed FDA the 4 protocol that Colorado School of Mines had. I 5 think it was in there, you know, '73, and how 6 they developed it. And then it went from there. 7 We tried to use the NIST standard to -- 8 to verify the percentages, and -- and we had too 9 high percentages, and that's when we went to the 10 Calidria, somewhere in that time frame. 11 In the -- in the chrysotile from Union 12 Carbide, the RG -- the SG-210 and the RG -- 13 I'm just having a -- RG-44, was it? 14 Something like that. It's in the report. 15 -- and saw that it had a bunch of small 16 ones, and we saw that it was giving, and so our 17 PLM analyst at the time, Paul Hess, started 18 figuring out very quickly on what to look for. 19 And that's when we also started doing 20 the standards, and I wanted to make sure we 21 weren't misidentifying fibrous talc or talc 22 plates on edge. 23 And we went through a series where once 24 Paul Hess and another analyst here got to the</p>	<p style="text-align: right;">Page 101</p> <p>1 I think we -- you know, and we want to 2 back off that. And that's giving us, I think, 3 the most efficient -- 4 And, finally, I did a very simple 5 experiment. Just put the Calidria or the 6 chrysotile SG-210 in the heavy liquid density 7 material by itself, no talc, no anything, spun it 8 for 72 hours, and every bit of it was up in the 9 top. 10 Now, the talc issue causes the material 11 to separate it out. So you think about you're in 12 a tube -- or say you're in a tunnel. You've got 13 to go straight up. But there's these big ceiling 14 tiles all on top of you. And the ceiling tiles, 15 because of the gravity, is beating full down. So 16 you've got to fight your way through it. And 17 that's what was happening. 18 Also, the surface charge of chrysotile 19 is positive, and the surface charge of talc is 20 negative. They're sticking to each other. So we 21 started looking at maybe a way to change the 22 surface charge. And we went -- we've gone to 23 organic heavy density liquid separation, but 24 that's -- that material, methylene iodine, it</p>



<p style="text-align: right;">Page 102</p> <p>1 is -- it's fairly dangerous.</p> <p>2       So we're using a water-soluble one, and</p> <p>3 we're -- we're working on that to look at the</p> <p>4 centrifuge time.</p> <p>5       So it's just -- it was not as</p> <p>6 straightforward as the Colorado School of Mines</p> <p>7 laid out. They didn't put any of this in it.</p> <p>8 They didn't look at this.</p> <p>9       And you can look at their</p> <p>10 concentrations, that they had 0.00001 to 7</p> <p>11 percent. That's a lot higher -- that's a lot</p> <p>12 worse detection limit than what we're seeing. So</p> <p>13 I think they were losing material in their</p> <p>14 analysis. But they did do really good work.</p> <p>15       You know, from there, we -- so we go,</p> <p>16 okay. We -- we did the 7.2, which didn't make</p> <p>17 any sense, but that was giving us the highest</p> <p>18 return. We now got the 2.65, and we may lower it</p> <p>19 from there.</p> <p>20 Q     Okay. Thank you.</p> <p>21       Circling back to the beginning of the</p> <p>22 story, so you say February 4th, 2020, is the day</p> <p>23 that you and others give the presentation to the</p> <p>24 Interagency Working Group; right?</p>	<p style="text-align: right;">Page 104</p> <p>1 Group --</p> <p>2 MS. O'DELL:</p> <p>3       Excuse me. He was not finished with</p> <p>4 his answer.</p> <p>5       So if you could --</p> <p>6 MR. EWALD:</p> <p>7 Q     Oh. Go ahead.</p> <p>8 A     So the chairman of the committee that</p> <p>9 invited me to come talk sent FDA a letter saying</p> <p>10 that they would not support the methodology</p> <p>11 for -- for regulating cosmetic talc unless they</p> <p>12 used the heavy liquid density separation that I</p> <p>13 proposed at the FDA meeting.</p> <p>14 Q     I'm sorry. The -- I got lost there.</p> <p>15 You're talking about what you proposed after --</p> <p>16 at the February 4th, 2020, meeting?</p> <p>17 A     No. What I -- what I got asked, which</p> <p>18 was the most sensitive method to use at the -- at</p> <p>19 the testimony in front of Congress. And they</p> <p>20 wrote a letter to FDA, said that they needed to</p> <p>21 incorporate this in anything they did or they</p> <p>22 wouldn't support it.</p> <p>23 Q     And "they" being the committee or -- or</p> <p>24 some subset of the committee?</p>
<p style="text-align: right;">Page 103</p> <p>1 A     Correct. You know, you could either --</p> <p>2 it wasn't that you were invited to do it. You</p> <p>3 know, if you wanted to give a presentation, you</p> <p>4 just had to put an abstract in, all your -- you</p> <p>5 know, all your things and what you were gonna</p> <p>6 talk about, and they could either say yea or nay.</p> <p>7       And, so, that's -- that's what I did.</p> <p>8 I talked about that the amphibole was pretty</p> <p>9 clean, that we weren't having really any issues</p> <p>10 with that. You know, and -- and that had some</p> <p>11 effect on it, because the -- the -- the</p> <p>12 Interagency Working Group wanted their</p> <p>13 recommendations as to look at research to look at</p> <p>14 the heavy liquid density separation for</p> <p>15 amphiboles only.</p> <p>16       Because at the time that we gave the</p> <p>17 talk and also in December 10th of 20-- of 2019</p> <p>18 at FDA, you know, I told them that chrysotile was</p> <p>19 not feasible at the moment, or at this time. So</p> <p>20 their recommendation to FDA was to use the heavy</p> <p>21 liquid density separation for amphibole asbestos</p> <p>22 for their -- for their work, their working group.</p> <p>23 But the --</p> <p>24 Q     Didn't you tell the Interagency Working</p>	<p style="text-align: right;">Page 105</p> <p>1 A     Well, it had the chairman's name on it,</p> <p>2 so I'm assuming it was the subcommittee.</p> <p>3 Q     But with respect to a February 4th,</p> <p>4 2020, meeting, you talked about amphibole, but</p> <p>5 you recall telling the audience on February 4th,</p> <p>6 2020, that MAS had cracked the code on PLM heavy</p> <p>7 liquid separation; right?</p> <p>8 A     We didn't crack it, but I don't think</p> <p>9 we got all the codes.</p> <p>10 Q     But that's -- that's not what you told</p> <p>11 the Interagency Working Group on February 4th,</p> <p>12 2020; right? You said you cracked the code.</p> <p>13 A     I did say that. But I did show what</p> <p>14 data we had so far, and that it not really was</p> <p>15 ready for prime time.</p> <p>16       Because you have to understand, when</p> <p>17 you say crack the code, the prevailing thought in</p> <p>18 the -- was that you could never do heavy liquid</p> <p>19 density separation to separate chrysotile out of</p> <p>20 talc. It was in -- the closest they came to</p> <p>21 anybody saying that was in the ISO 22262-2,</p> <p>22 chapter -- I mean section 16, like, second page,</p> <p>23 and that was, you know, Dr. Eric Chatfield put</p> <p>24 that method together, where he stated it's</p>

<p style="text-align: right;">Page 106</p> <p>1 theoretically possible to separate chrysotile out 2 from talc, but it's not practical. 3 And, so, my opinion about that 4 statement is he's absolutely right. It's past 5 the theoretical portion, because it can be done, 6 but it's not very practical. It's a lot of work 7 involved. And he did a lot of work to get it to 8 this point. 9 And, you know, to me, this would have 10 been a -- a -- a Ph.D. project at a research lab, 11 at a university somewhere. You know, Colorado 12 School of Mines, they probably had graduates 13 working on this and they came up with the method 14 in 1973. 15 But we're not a research lab. I mean, 16 we don't get funding from grants and et cetera to 17 work on stuff like this, so we've got to do it on 18 our own time when we're not doing other work. So 19 it takes awhile. 20 Q We'll get back to the February 4th, 21 2020. But when you talk about not funding for 22 PLM chrysotile work, are you testifying that you 23 did not receive any funding from plaintiff 24 lawyers in creating the PLM chrysotile method</p>	<p style="text-align: right;">Page 108</p> <p>1 this stuff. 2 Q Right. And, so, am I right that's 3 50,000 -- five zero thousand? 4 A For a single case. 5 Q Okay. 6 A But not 50,000 for all six bellwether 7 cases. I think they're -- because they're all 8 together at the same time. So you've got -- Rico 9 and et cetera, I think it was around 150 or 175 10 or something for all six cases. 11 Q All right. So you were talking about 12 the initial work being done on the PLM chrysotile 13 method about four weeks before February 4 of 14 2020, so we're talking some point in December 15 2019? Is that right? 16 A Sometime before that. And not to 17 the -- not to the level that -- 18 Because I was asked about chrysotile, I 19 think, in the -- in the 2019 hearing in front of 20 Congress, and I think I said it wasn't -- hasn't 21 been done yet. 22 Q Right. 23 But around December of 2019, MAS starts 24 working on, in earnest, a PLM chrysotile method.</p>
<p style="text-align: right;">Page 107</p> <p>1 that MAS uses? 2 MS. O'DELL: 3 Object to the form. 4 A Hold on for a second. 5 MS. O'DELL: 6 Let's go off the record for a moment, 7 please. 8 (OFF THE RECORD.) 9 VIDEOGRAPHER: 10 Back on record. Time is 2:42. 11 MR. EWALD: 12 Q Doctor, I'll just repeat the question 13 or approximate it. 14 How much funding has MAS received from 15 plaintiffs' lawyers in relation to development of 16 the PLM chrysotile method that MAS uses? 17 A I mean, we just charge for the 18 analysis. 19 Now, what we did -- like NavStar's 20 having funding -- is -- 21 You know, you haven't got to this yet. 22 -- is raise our retainer rates so that 23 we can have some excess funds to help pay for 24 equipment, et cetera, and time being spent on</p>	<p style="text-align: right;">Page 109</p> <p>1 Fair? 2 A Well, it's hard to say earnest. It's 3 like we're doing other stuff. So maybe an hour 4 here, an hour there, you know, let's analyze it 5 doing this, let's try this, let's go to a 6 different, you know, heavy liquid density 7 separation and count it, and on and on. I mean, 8 it wasn't a -- it wasn't like when I was in 9 graduate school getting my Ph.D. You know, you 10 got there in the morning and you worked all day 11 on this stuff. 12 Q Okay. You start -- MAS starts on 13 working on PLM chrysotile method around December 14 2019. Fair? 15 A Somewhere around there, plus or minus a 16 month or two -- no. Plus or minus a month or 17 weeks. But -- 18 Because I know what information I gave 19 out at the -- in front of the FDA, and it 20 certainly wasn't developed. But we were finding. 21 Q But -- so where did the idea come from? 22 A To -- which -- which idea is that? 23 Q Where did the idea come from for using 24 PLM to analyze chrysotile in talc?</p>



<p style="text-align: right;">Page 110</p> <p>1 A Because Colorado School of Mines was 2 using PLM to find the chrysotile in the talc. 3 The Johns Manville research center was doing 4 primarily PLM to find asbestos in various types 5 of samples. They analyzed -- and they were using 6 the proposed FDA method -- I think it was '75, 7 '76 -- that was based solely on refractive 8 indices, basically what we're doing now. 9 But that method took an awful long time 10 to do, because the results were in numbers of 11 fibers in bundles per milligram, not percentages. 12 And they analyzed thirteen samples from one of 13 the manufacturers, but I think they were all from 14 Montana, and they said out of the thirteen, ten 15 were positive, and they were finding significant 16 amounts, and the other two or three they said 17 could possibly, you know, be contaminated. 18 But everybody who did this method was 19 complaining on how long it took. And, so, FDA, 20 everybody, I think, ganged up on FDA, and FDA 21 didn't go forward -- 22 I mean, they published the method in -- 23 published it, and people were trying it, but they 24 said it took too long. It was too tedious. And</p>	<p style="text-align: right;">Page 112</p> <p>1 positive, you have to do another analysis. So -- 2 and XRD has such a poor detection limit. Would 3 be too many -- too many false positives. 4 Oh, you had mentioned earlier that what 5 is the consequences of having a 50 percent 6 efficiency versus an 80 to 90 percent efficiency 7 of getting the concentration. Well, the 8 consequences are that 50 percent will have a 9 poorer analytical sensitivity or detection limit 10 than the 80 to 90 percent. 11 So the consequences are potential false 12 negatives, because you haven't harvested all the 13 chrysotile in there that you can, and the -- and 14 the less chrysotile you have in there that's 15 sitting in other parts of the sample, you reduce 16 your ability to have a really solid detection 17 limit. 18 Q So why -- why, in or around December 19 2019, when MAS started looking at a heavy liquid 20 separation method for chrysotile, did you not try 21 TEM? 22 A Well, let me think back five years. 23 Because of the size that we're dealing with -- 24 and I think I've stated this a number of times --</p>
<p style="text-align: right;">Page 111</p> <p>1 they're right. This is a tedious method to find 2 chrysotile. So they had a range of IRs it had to 3 be for chrysotile and then a range of IRs that it 4 had to be for amphiboles. 5 Q All right. So -- 6 A There's others who did that, too. I'm 7 trying to think who else. 8 So the PLM came from Colorado School of 9 Mines using PLM and finding chrysotile in three 10 out of four samples. 11 Q Okay. Colorado School of Mines also 12 used during that time XRD in connection with 13 analyzing talc for the presence of chrysotile in 14 its heavy liquid separation method; right? 15 A Yeah, you can use XRD. I -- I still to 16 this day hold that it's a worthless method, 17 because if it's positive, you've got to do PLM 18 anyway, or TEM. And, also, the problem with it 19 is -- 20 At least if you're using the J4 method, 21 you know, there's a -- to me, there's now an 22 issue, very significant issue with that. I think 23 I have it in the report. But I don't have -- 24 You know, if you get XRD and it's</p>	<p style="text-align: right;">Page 113</p> <p>1 one, there is absolutely no regulation anywhere, 2 not by the EPA, not by the International 3 Standards Organization, not by OSHA, not -- not 4 by NIST, not by NIOSH, that if you have a 5 positive chrysotile, PLM, you're not required to 6 go out and get a second opinion on that. 7 And, as I've said many times, I thought 8 it would be better that before we did this heavy 9 liquid density separation and TEM, that we knew 10 exactly what our recovery rate was and how well 11 it was working. 12 With the Blount method on PLM, it was 13 pretty much all laid out. We just used that for 14 TEM. We knew what the detection -- you know, 15 that -- what we were dealing with there, and we 16 started right off the bat with TEM and finding, 17 you know, anywhere from 65, 75, 80 percent 18 positives. So that wasn't a hard jump. The 19 chrysotile -- 20 And, you know, we had protocols. 21 International Standards Organization had a 22 protocol for that published -- and that one -- 23 The ISO protocol said you can use PLM 24 SEM or TEM or XRD. Do whatever you want, but use</p>

<p style="text-align: right;">Page 114</p> <p>1 the heavy liquid density for the separation.  2 But you're looking at, you know,  3 well-respected individuals and scientists, and  4 they're saying things like, "oh, well, that's not  5 very practical." So we stayed away from it.  6 Because you've got such a close difference  7 between what the density of talc is versus the  8 density of chrysotile.  9 So I wanted to make sure that we're  10 getting the highest probability, and if I had the  11 best detection limit and I can't find it by PLM  12 or TE- -- if I can't find it by TEM, then, okay,  13 something's going on.  14 Q But why wouldn't you start, as you did  15 with the amphiboles, with TEM with heavy liquid,  16 which has a greater sensitivity than PLM?  17 A For TEM on chrysotile?  18 Q Yes.  19 A Well, if you think about the issues we  20 had on solving technical issues as we go along,  21 we would have been sitting there with -- with --  22 Like, the first time we ran -- the  23 first time we ran the standards with TEM to see  24 what our detection limit was, our detection limit</p>	<p style="text-align: right;">Page 116</p> <p>1 through all those steps. We have to take the --  2 you know, the hundreds and hundreds of thousand  3 dollar instrument and then go, and it just didn't  4 make any sense to me as a scientist until we're  5 ready to say, okay, this is the best prep ever.  6 If we don't see it with this, we're never gonna  7 see it.  8 But in the --  9 Q But that's not --  10 Go ahead.  11 A But if you have poor prep and you're  12 doing it over and over and you don't find it,  13 well, what was the detection limit? What's this?  14 And we knew that it was -- that going along doing  15 the PLM would be the fastest -- the fastest way  16 to verify that it is in there.  17 Q Well, that was the --  18 When you started for the first time  19 with experimenting on analyzing talc for the  20 presence of amphiboles using heavy liquid  21 separation, you chose TEM; right?  22 A Chose that right off the bat, because  23 that made the most sense.  24 Q And, then, when you had the same choice</p>
<p style="text-align: right;">Page 115</p> <p>1 was like .1. We knew that's not what was in  2 there. It's -- we -- we had to solve a lot of  3 issues along the way.  4 I mean, you know, this was really a  5 classic example of the advancement of science.  6 The theory there is you can do it. Practically,  7 you have to work on it.  8 Q But when you were presumably deciding  9 between whether or not --  10 Well, let me just ask. Who decided to  11 use PLM to try to find chrysotile in talc at MAS?  12 A That was me.  13 Q Okay.  14 A And you have to think about what you're  15 doing. Using a PLM method in sample prep versus  16 a TEM sample prep is -- is worlds of differences.  17 On one hand you've got a -- you know, that was  18 when we were using those old PLM scopes. You  19 have a two-thousand-dollar microscope, and you  20 can -- the sample preparation is about the same  21 for the two for spinning them down and moving  22 them out, but you can get it into the PLM and do  23 a fair number of samples and take a look and see  24 how it's going, where TEM, you've got to go</p>	<p style="text-align: right;">Page 117</p> <p>1 as it came to chrysotile, you chose PLM, not TEM;  2 right?  3 A Well, we're talking four years between  4 the time we started with PLM -- with TEM. And,  5 in fact, I had testified at one time that I  6 didn't think PLM was gonna work. But as we went  7 along, started looking at what we needed to do to  8 make that work versus just your regular everyday  9 asbestos-added products for amphiboles, then it  10 changed my mind.  11 You know, once you see additional  12 evidence that this is a good method, as long as  13 you're going to spend the time and use heavy  14 liquid density, just like Alice Blount  15 published --  16 But, to me, the TEM for amphibole was  17 gonna be a lot more sensitive than just PLM  18 method.  19 Now, this might be reversed for  20 chrysotile. I don't know yet. But I have to get  21 the most efficient harvest of chrysotile out of  22 the cosmetic talc so I know that, if I can find  23 it or not find it, it's not missing something,  24 that I don't have a good prep, because</p>

<p style="text-align: right;">Page 118</p> <p>1 preparation is everything for a TEM analysis.</p> <p>2 Q Well, if you are correct, the</p> <p>3 finding --</p> <p>4 Withdrawn.</p> <p>5 If MAS is correctly finding chrysotile</p> <p>6 in Johnson &amp; Johnson talc using PLM, then you</p> <p>7 should be able to identify that on TEM if you</p> <p>8 look long enough. Correct?</p> <p>9 A If -- if you look long enough,</p> <p>10 et cetera. That -- it doesn't work. You need,</p> <p>11 you know, you need to have the methodology down.</p> <p>12 And, again, once you say it's there by PLM,</p> <p>13 you're not required to do anything else. We are</p> <p>14 gonna do something else so I can publish it.</p> <p>15 Q Why do you feel like --</p> <p>16 Well, what else are you going to do?</p> <p>17 A Well, we'll get to where --</p> <p>18 If I'm gonna publish this, I want to</p> <p>19 publish and say this is the best, most efficient</p> <p>20 method we found, and these are the reasons why.</p> <p>21 Q And what do you have to do before you</p> <p>22 get to that point in time?</p> <p>23 A Well, I've got to finish up these --</p> <p>24 I've got to finish up using the 1.560. You know,</p>	<p style="text-align: right;">Page 120</p> <p>1 Italian and using Montana, using et cetera. I</p> <p>2 didn't think I was ever gonna see you guys again.</p> <p>3 Q So is it your contention that you</p> <p>4 haven't tested an MDL bottle because there was a</p> <p>5 period of time that J&amp;J was in bankruptcy?</p> <p>6 MS. O'DELL:</p> <p>7 Object to the form. Misstates his</p> <p>8 testimony.</p> <p>9 A No. I didn't test any of it because</p> <p>10 the time it really -- we started, you know,</p> <p>11 really solving issues, you guys went bankrupt.</p> <p>12 So I focused on others so that we could take a</p> <p>13 look at Italian, we could take a look at Brazil,</p> <p>14 we could take a look at Guangxi, the four or five</p> <p>15 mines there. And as we got going along, you</p> <p>16 know, we got better and better at seeing these</p> <p>17 very small structures.</p> <p>18 Now, the next step is to get it to that</p> <p>19 one -- to get it to the level I'm satisfied with</p> <p>20 so that, you know, we can do TEM and finally put</p> <p>21 an end to the -- to, oh, you're misidentifying</p> <p>22 it. You're misidentifying it.</p> <p>23 MR. EWALD:</p> <p>24 Q Isn't there another way that you can</p>
<p style="text-align: right;">Page 119</p> <p>1 there's eight -- seven or eight samples there.</p> <p>2 Each of those are gonna take hours so that I have</p> <p>3 validated the concentrations by PLM. Then we</p> <p>4 have to go back and redo the TEMs because we're</p> <p>5 using 1.560. And we may adjust the heavy liquid</p> <p>6 density a little bit more, and that's it. But</p> <p>7 that's -- you're talking months of work.</p> <p>8 Q Have --</p> <p>9 Am I correct that you have not analyzed</p> <p>10 any of the MDL samples by PLM for the presence of</p> <p>11 chrysotile?</p> <p>12 A That's correct. We have not.</p> <p>13 Q Why not?</p> <p>14 A Number one, we weren't asked to do it.</p> <p>15 Number 2, we analyzed -- we have</p> <p>16 analyzed some -- you know, we have analyzed a</p> <p>17 number of samples from Vermont. We've analyzed a</p> <p>18 lot of samples from Italian, but not just -- not</p> <p>19 just Johnson Baby Powder samples.</p> <p>20 So we never -- we never did it because</p> <p>21 we were doing it on a bunch of other things.</p> <p>22 And, you know, quite frankly, J&amp;J was in</p> <p>23 bankruptcy, so we focused in on other</p> <p>24 manufacturers that were using, you know, using</p>	<p style="text-align: right;">Page 121</p> <p>1 put an end to that?</p> <p>2 A Is there another way what?</p> <p>3 Q To put an end to that.</p> <p>4 MS. O'DELL:</p> <p>5 Object to the form. Vague.</p> <p>6 A I mean, it should put an end to it --</p> <p>7 it should put an end to it. I mean, the talk --</p> <p>8 the suggestion that we are misidentifying fibrous</p> <p>9 talc are absolutely wrong. The birefringence is</p> <p>10 so easy in a clear way to distinguish between</p> <p>11 these two biaxial minerals. I don't understand</p> <p>12 how they can keep saying this. It doesn't make</p> <p>13 any sense to me.</p> <p>14 MR. EWALD:</p> <p>15 Q Has any -- are you aware of any</p> <p>16 scientist outside of MAS that has analyzed a</p> <p>17 bottle or sample from a bottle of talc by PLM and</p> <p>18 reported chrysotile?</p> <p>19 A Um, I don't know. I mean, I don't know</p> <p>20 what different scientists are out there. I don't</p> <p>21 know what's been done as consulting experts.</p> <p>22 What I do know is not one scientist out</p> <p>23 there has provided any authoritative information</p> <p>24 about polarized light microscopy that shows that</p>

<p style="text-align: right;">Page 122</p> <p>1 we are misidentifying fibrous talc for 2 chrysotile. It makes absolutely no sense. 3 Either they don't understand birefringence or 4 they don't understand the PLM process or they 5 don't understand how birefringence is measured, 6 and they probably don't understand about the 7 Michelle Levy charts where you do a -- you 8 compare your lowest -- your lowest refractive 9 indice [sic] to your highest refractive indice 10 [sic] and then you look at the -- the width of 11 the structure, PLM, and the width will cause a 12 difference in your birefringence. And a 13 difference in birefringence can only happen if 14 the width is causing a difference in the 15 refractive indices. 16 Q Dr. Longo, are you aware of anyone in 17 the world that has reviewed your images and data 18 from MAS identifying chrysotile by using PLM and 19 publicly agree with it? 20 MS. O'DELL: 21 Objection to the form. 22 A Yes and no. Yes, they have agreed, 23 but, no, they're not willing to go publicly with 24 it. So...</p>	<p style="text-align: right;">Page 124</p> <p>1 thousands of experts that are all involved in 2 this. There's like, what, six? Five? 3 And I'm not saying they're incompetent. 4 I just don't understand how they can miss the 5 birefringence on chryso- -- on talc versus the 6 chrysotile. You're talking about five orders of 7 magnitude difference. Yeah, you'll get a yellow 8 gold, but it's bright versus a more muted yellow 9 gold. And you look at your data, and nobody's 10 been able to explain where I have intergrowths 11 with both talc and chrysotile in both parallel 12 and perpendicular direction. And when you look 13 at them, it's very obviously there's something 14 different there. 15 MR. EWALD: 16 Q Well, you talked about in this 17 litigation. But would you agree with me that 18 submitting your methods, the scrutiny of the 19 larger scientific community is a component of 20 good science? 21 MS. O'DELL: 22 Object to the form. 23 A No, I won't agree with you. I would 24 agree --</p>
<p style="text-align: right;">Page 123</p> <p>1 MR. EWALD: 2 Q Okay. Who agrees? 3 A I'm not saying. I -- I gave them my 4 word that I would not use their name. 5 Q Okay. So we have one individual who 6 you say agrees with you but isn't willing to 7 actually publicly agree with you. Fair? 8 MS. O'DELL: 9 Object to the form. 10 A It's fair that they -- they don't want 11 to be involved in the litigation. But I don't 12 think that has anything to do with anything. 13 MR. EWALD: 14 Q Well, you just said -- you've just been 15 criticizing the people that have commented on 16 your work as basically how can they be so 17 incompetent. I want to know if there's anyone 18 that you can identify by name outside of MAS that 19 says yes, Dr. Longo is right in identifying 20 chrysotile through PLM. Anybody? 21 MS. O'DELL: 22 Object to the form. 23 A You know how -- yeah. It's kind of 24 interesting you say that. It's like there's</p>	<p style="text-align: right;">Page 125</p> <p>1 I mean, I think, as a good scientist, 2 you want to get the best product forward. And 3 I've told you that for a commercial lab, it is 4 incredibly difficult to spend the time that we 5 need to finish up all this. Because you guys, 6 it's like you think, okay, well, we should have 7 it right away. So, you know, I can't help you 8 there. 9 This is an advancement in science. The 10 fundamentals of why, nobody has pulled anything 11 out to say, "oh, it's different." You know, they 12 go, "oh, well, he's misidentified cellulose 13 fibers." 14 No. If you look at the refractive 15 indices for cellulose, a ribbony cellulose, no 16 competent PLM analyst would have a problem with 17 that. 18 The difference between fibrous talc or 19 platy talc on edge and chrysotile is the 20 birefringence is incredibly significant. I just 21 don't understand how that -- you know, the 22 mistake. I'm not saying they're incompetent. 23 I'm just saying it doesn't make any sense to me. 24 MR. EWALD:</p>

<p style="text-align: right;">Page 126</p> <p>1 Q So you are -- or MAS is currently 2 finding chrysotile in nearly a hundred percent of 3 the talc containers that it looks at using the 4 PLM chrysotile method; right? 5 MS. O'DELL: 6 Object to the form. 7 A It has. And your point as well? 8 MR. EWALD: 9 Q I'm getting there. I'm putting it all 10 in one question. 11 So the -- that's -- if indeed there is 12 asbestos in nearly every talc container that's on 13 the market, that is something that presents a 14 public health issue; correct? 15 A Presents what? 16 Q A public health issue. Correct? 17 MS. O'DELL: 18 Object to the form. 19 A I would agree. 20 MR. EWALD: 21 Q And when you told the FDA and the 22 Interagency Working Group on February 4th, 2020, 23 that you cracked the code and could analyze 24 PLM -- you could analyze chrysotile using PLM</p>	<p style="text-align: right;">Page 128</p> <p>1 Q Are you suggesting that the FDA and the 2 broader Interagency Working Group has not 3 contacted you because some talc has gone off the 4 market? Is that what you're suggesting? 5 A No. 6 MS. O'DELL: 7 Object to the form. 8 A No. I'm not saying that. I don't 9 think they've contacted anybody. They're working 10 among themselves. So, you know, have they 11 contacted Matt Sanchez? Have they contacted Alan 12 Seagrave? The only person they contact is AMA, 13 who won the contracts. 14 MR. EWALD: 15 Q Well, have you told AMA, "hey, guys, 16 you're using the wrong PLM method because what 17 I'm doing right now, I'm finding it a hundred 18 percent of the time and you haven't found it 19 once?" Right? 20 MS. O'DELL: 21 Object to the form. 22 A I haven't found it a hundred percent of 23 the time, and I don't know why that's so obvious 24 to have a problem with people. And I'm gonna</p>
<p style="text-align: right;">Page 127</p> <p>1 heavy liquid separation, has anybody from any of 2 the Interagency Working Group contacted you for 3 more information? 4 A Nobody has contacted me. I think the 5 public health issue has dwindled from this. I 6 don't think it's -- at least to me -- 7 You know, I understand that Johnson &amp; 8 Johnson is now taking the talcum powder off the 9 international world. You know, first it was, 10 what, in 2022, North America? So I think this 11 has -- this work on this has helped motivate -- 12 It's just my opinion, and probably, you 13 know, whatever y'all think. 14 -- motivated to get these products off 15 the market. 16 Again, I would like to be at a 17 university so I could get this out sooner, but I 18 know this is gonna be heavily scrutinized. I've 19 seen what's happened in the past. You know, you 20 get something out there, and there's a lot of 21 pushback. So I prefer to get it all where we can 22 show every aspect of this, show how -- what we're 23 seeing and why. And I think it will be a good 24 paper.</p>	<p style="text-align: right;">Page 129</p> <p>1 call AMA? They know my testimony. They know 2 what I do. I'm gonna call Sanchez? I'm gonna 3 call Alan Seagrave? 4 MR. EWALD: 5 Q There are professional organizations as 6 well. People get together and talk about these 7 issues; correct? 8 A You know, it's sort of like, gee, you 9 haven't told anybody, and why not, and why don't 10 you go out there and start banging the drum? And 11 I prefer to have the science to the point where 12 I'm doing -- it has the best sensitivity and we 13 can show it. 14 Cos- -- you know, cosmetic talc's not 15 sold anymore in this country, that I can tell, 16 unless you -- unless you go to eBay or -- 17 But you walk in a store, you can't find 18 it anymore, which is a good thing. Because 19 you're right. I'm thinking that, you know, when 20 you're using these products as a body powder and 21 you're putting it on infants and children, it's 22 not a good thing. 23 MS. O'DELL: 24 Hey, John, we've been going about an</p>



<p style="text-align: right;">Page 130</p> <p>1 hour. Why don't we take a short, short break, 2 about five minutes? 3 MR. EWALD: 4 Sure. Let's do it. 5 VIDEOGRAPHER: 6 Off record. The time is 3:12. 7 (OFF THE RECORD.) 8 VIDEOGRAPHER: 9 Back on record. Time is 3:24. 10 MR. EWALD: 11 Q Okay. Doctor, right before we got back 12 on the record, you indicated that you did 13 identify the two tests that I had mentioned by 14 MAS's M number. Can you briefly just say on the 15 record which two tests those are? 16 A I'm sorry? 17 Q I wanted you to say on the record the 18 two M numbers that you identified off the record. 19 A MAS project M71740, the Kirch Johnson 20 Baby Powder container and report issued on 21 2-15-2024, and then we have M71730, the Jeanie 22 Henderson container and report issued in November 23 28 in 2023. 24 Q And if we combine those two analyses</p>	<p style="text-align: right;">Page 132</p> <p>1 that work? 2 A I don't recall any -- we actually had 3 anybody funding that work. And, you know, use -- 4 And I was thinking about what we just 5 talked about. The use of heavy liquid density 6 separation for minerals is something that is so 7 well established in the scientific community. 8 It's nothing -- there's nothing unique, there's 9 nothing -- 10 There's hundreds and hundreds of papers 11 out there published about using heavy density 12 liquid to use [sic] minerals. In this particular 13 case, we're just using -- we're going after a 14 different mineral that people haven't gone after 15 in the past, that I can tell, for -- for 16 chrysotile using a -- not a novel analytical 17 method. PLM is not novel. It's, you know, it's 18 been around from the late '60s, early '70s. The 19 use of -- it's just another analytical technique 20 for separating out a sample. It's just taking us 21 longer because we're not a research lab. 22 But, you know, you can go on TV and 23 watch heavy liquid density separation on the 24 shows where they're panning for gold. That's</p>
<p style="text-align: right;">Page 131</p> <p>1 with the analyses contained in your fourth 2 supplemental report, April 29th, 2024, that 3 together represents the entirety of the MAS PLM 4 chrysotile analyses that have been produced as it 5 relates to J&amp;J talc? 6 A As far as I know, yes. 7 Q Okay. It's not a trick question. It's 8 the same thing I have. 9 A No, there's no others. One will show 10 up, and then people aren't too kind. 11 Q Well, let's circle back. When we were 12 talking about the early days of MAS's work on PLM 13 and chrysotile circa roughly December 2020, who, 14 if anyone, was funding that initial work? 15 MS. O'DELL: 16 Object to the form. 17 John, I think you misstated the year. 18 You said 2020. 19 MR. EWALD: 20 I think I did, too. Let's try again. 21 Thank you. 22 Q In -- in or around December of 2019, 23 when MAS was beginning its PLM chrysotile 24 methodology work, who, if anyone, was funding</p>	<p style="text-align: right;">Page 133</p> <p>1 heavy liquid density separation. 2 Q Okay. So if that's the case, Doctor, 3 then why did you spend a decent amount of your 4 report and the deposition time earlier today 5 saying how J&amp;J hid from the world this heavy 6 liquid separation method for chrysotile that 7 never would have been -- seen the light of day if 8 not for litigation if it's -- everyone knows 9 about it and it's so well established? 10 MS. O'DELL: 11 Object to the form. 12 A Well, if you have a method and you 13 start analyzing it and you're getting a number of 14 positive samples for asbestos that you did during 15 the earl- -- during the development of this 16 method, it wasn't me who said this but it was a 17 J&amp;J person that said that this concentration 18 method is not in the best interest of our 19 worldwide talc market. You're gonna start 20 putting out there that there's asbestos in your 21 product? That's what I think. 22 MR. EWALD: 23 Q Well, I'm sorry, Doctor. You didn't 24 answer my question, which is: If, as according</p>

<p style="text-align: right;">Page 134</p> <p>1 to you, it's so well established in the 2 scientific community, there are hundreds of 3 papers over decades that heavy liquid separation 4 is something that works, how could J&amp;J have 5 engaged in this great coverup, as you posited, 6 preventing the scientific world from using heavy 7 liquid separation for chrysotile? 8 MS. O'DELL: 9 Object to the form. 10 A I don't think it was well known out 11 there that there was asbestos in cosmetic talc. 12 It certainly was not something I thought of early 13 on when I've been shown those transcripts from 10 14 to 20 years ago. 15 I can't answer why from J&amp;J. Alls I 16 can answer is if you look at the Blount paper 17 where she goes into different references for what 18 she's using, especially when she starts talking 19 about separating out the pellet -- 20 And that's where we got the idea of 21 using liquid nitrogen, because she had references 22 in there for using liquid nitrogen to do this. 23 When you're doing your flotation, when 24 J&amp;J and all the talc manufacturers out there do</p>	<p style="text-align: right;">Page 136</p> <p>1 Yeah. 2 Q You didn't decide to use the Colorado 3 School of Mines' method because it's a good 4 method? It was only because J&amp;J had used it in 5 documents that you saw? 6 MS. O'DELL: 7 Object to the form. 8 A I used it because they showed it was 9 possible to separate out chrysotile from talc. 10 And they also, of course, showed that you can 11 separate out amphiboles from talc by using heavy 12 liquid density separation. And, also, the same 13 time we saw the -- when Windsor Mineral did their 14 own heavy liquid density research by Reynolds, 15 that they found asbestos using heavy liquid 16 density. They used standards. So it looked to 17 me like it was a fairly well-developed 18 methodology -- 19 Q You say fairly -- 20 Sorry. Go ahead. 21 A -- for amphiboles. You know, Eric 22 Chat- -- Dr. Chatfield had been using it for 23 years on vermiculite. Then he put together, you 24 know, the 22262-1 and -- well, 2, where then he</p>
<p style="text-align: right;">Page 135</p> <p>1 the beneficiation with flotation, they're using a 2 surfactant to help drive the talc particles to 3 the surface to be harvested. So they're -- 4 they're changing the surface tension there, and 5 they're concentrating it, trying to get rid of 6 the fines. That's why J&amp;J was experimenting with 7 different surfactants, thinking they could 8 eliminate both chrysotile and/or tremolite out of 9 their product from the -- from the Vermont mines. 10 Now, you know, they didn't go tell the 11 world about it. It didn't work for both Argonaut 12 and Hammondsville. 13 So I just took a well-established 14 method and tried it because I saw that J&amp;J had 15 done it and had found -- had positive samples for 16 chrysotile. That's the only reason I got started 17 in it. 18 Q So you didn't -- you didn't decide to 19 use Colorado School of Mines' method because you 20 thought it was a good method? 21 MS. O'DELL: 22 I'm sorry. Would you repeat that? I 23 couldn't hear the last part. 24 MR. EWALD:</p>	<p style="text-align: right;">Page 137</p> <p>1 says "here's how you do it, and you can use it 2 for all these different things, including 3 cosmetic talc, and once you do it, you can 4 analyze it by PLM or SEM or TEM or XRD, any one 5 of them." 6 Nowhere in there does it say you have 7 to do it for all of them, you know, you have to 8 go -- if you're gonna do it for PLM, you've got 9 to do it for TEM or you've got to do it for XRD. 10 He said here's the methods, the analytical 11 methods. 12 Q All right. Required or not, if you are 13 not able to identify a single person by name in 14 the deposition that will publicly agree with you 15 in your findings of chrysotile by PLM, isn't it 16 good scientific practice to then say "I'm going 17 to confirm this by TEM," for example? 18 MS. O'DELL: 19 Object to the form. 20 A I've already given you my -- my reasons 21 for that. We have not tried it yet for Johnson's 22 Baby Powder by TEM. 23 MR. EWALD: 24 Q What about another lab? Why not send</p>



<p style="text-align: right;">Page 138</p> <p>1 your samples to another lab to try to confirm it, 2 whether it's TEM or PLM chrysotile? 3 A I'm not sending it to -- you know, I'm 4 not going to be sending -- I'm not gonna send it 5 to another lab yet. I'm gonna -- until, you 6 know, it's time to write your papers, the paper. 7 Q Okay. And why is that? 8 A Why? Because that's what I feel would 9 be the best method in order to get it published, 10 and given the protocol for PLM. I'm sure we will 11 have TEM done by then. I want to put both 12 together in one paper, TEM and PLM. 13 Q If it's, as you say -- if, as you 14 say -- 15 Sorry. Withdrawn. 16 If, as you said, after coming back from 17 a break with counsel, right off the bat, that 18 what you were doing was not novel or analytical, 19 why is it so difficult for you to publish those 20 results if they are so well established? 21 MS. O'DELL: 22 Object to the form. 23 A The use of heavy liquid density 24 separation is really well established to separate</p>	<p style="text-align: right;">Page 140</p> <p>1 in the deposition, that the Blount amphibole 2 density separation method has been published; 3 right? 4 A It has. 5 Q And that an amphibole separation method 6 has -- described in ISO 22262-2; correct? 7 A Correct. 8 Q And there is at least a mention of 9 amphibole separation methods and the need for 10 interlaboratory work on those in the FDA 11 interagency White Paper; correct? 12 A I'm sorry. What was that last one? 13 Q The FDA interagency White Paper at the 14 end of December '22, they do talk about amphibole 15 density separation methods and the need for 16 interlaboratory testing of those; right? 17 A Yeah. They're proposing that if they 18 go through with the heavy liquid density 19 separation for amphiboles, which will be good. 20 Q Right. 21 A A lot of people are doing PLM analysis 22 on these cosmetic talcs, in my opinion, that 23 don't have a clue what the detection limits are 24 by PLM.</p>
<p style="text-align: right;">Page 139</p> <p>1 out minerals, to separate out all kinds of stuff, 2 anything that has two densities. I mean -- 3 Hand me that. 4 Here's something I used to take in to 5 junior high school to teach science classes for 6 an hour, and when they were doing densities, I 7 would take this in and say "I'm gonna show you 8 what heavy liquid density separation is. Let's 9 say that blue particles are the asbestos and the 10 white particles are -- are the talc. Oh. One 11 floats and one goes down to the bottom." 12 I mean, they sell this at a hobby 13 store. It is so well accepted about this kind of 14 stuff. So -- 15 But we're trying to separate that is a 16 little bit more difficult, two minerals that are 17 very close in density, very close in -- 18 And we're talking about a -- a -- a -- 19 you know, a trace amount. That's the only 20 difference here. But the actual science behind 21 what we do is not novel at all. It's just 22 another sample preparation method in the lab. 23 MR. EWALD: 24 Q Well, you were talking about, earlier</p>	<p style="text-align: right;">Page 141</p> <p>1 Q Yeah. 2 A That'd be the weight percent by TEM 3 that, in my opinion, where you have to do a 4 calculation on a made-up fiber size, that they 5 have a detection limit of 10 to the minus 7, 6 finding one structure, even though to find one 7 structure, one fiber, you know, you have a 8 detection limit of anywhere from 5 to 15 million. 9 So I was hoping, you know, that when -- 10 the Interagency Working Group can fix some of 11 these issues. That's why they're not 12 recommending, by TEM, weight percents. 13 They're -- they're -- they're more 14 recommending -- that's the FDA -- that they go 15 with fibers and bundles per gram. It provides 16 more information on the actual concentration of 17 any asbestos, in my opinion. 18 Q So even -- 19 Apologies for the computer issue. 20 So even after telling the FDA in 21 February 4th, 2020, that you had cracked the code 22 on separation of chrysotile heavy liquid 23 separation, that is not even mentioned in the FDA 24 White Paper or any of the appendices; correct?</p>

<p style="text-align: right;">Page 142</p> <p>1 MS. O'DELL: 2 Object to the form. 3 A No. It's just amphiboles. 4 MR. EWALD: 5 Q And I believe you testified earlier 6 today that your impression was that the 7 Interagency Working Group understood that your 8 PLM chrysotile method was not ready for prime 9 time? Was that your testimony? 10 MS. O'DELL: 11 Object to the form. 12 A I don't think I said that. But I 13 didn't really show any data, I think, for any 14 chrysotile being found in any. I just said this 15 is the basic procedure. 16 On the other hand, I had the data for 17 the amphiboles that presented, so I guess that's 18 why they only stuck with amphiboles. I mean, 19 I -- I don't have an inside knowledge of what FDA 20 decides or not decides, or the Interagency 21 Working Group. 22 MR. EWALD: 23 Q Yeah. You say you -- you would be 24 speculating if you were to be talking about why</p>	<p style="text-align: right;">Page 144</p> <p>1 MS. O'DELL: 2 Object to the form. 3 A I wasn't wrong at all. I was 4 absolutely right. Now, we had to get it worked 5 out, but I used a noncontroversial, very 6 well-established method, but it just had to be 7 tweaked here. It's not the method's fault. 8 It's -- it was a little bit more difficult than I 9 thought. 10 But as I sit here now, I am -- I was 11 right. I was right, what I stated to that -- 12 that group at the time. 13 MR. EWALD: 14 Q We'll go ahead and mark -- 15 THE COURT REPORTER: 16 It's 12, John. 17 MR. EWALD: 18 Okay. Thank you. I just got there. 19 12. 20 Q -- Exhibit 12 the slides that 21 accompanied Dr. Longo's February 4th, 2020, 22 presentation to the Interagency Working Group. 23 Doctor, does this look familiar? 24 A It does.</p>
<p style="text-align: right;">Page 143</p> <p>1 the FDA/Interagency Working Group decided not to 2 even mention your PLM chrysotile heavy liquid 3 separation method had supposedly cracked the 4 code; right? 5 MS. O'DELL: 6 Object to the form. 7 A I just don't know what FDA would be 8 thinking. I don't know how much, based on my 9 testimony in front of Congress where I was asked 10 about chrysotile and said that's not possible 11 yet, it's not possible, we don't have a method 12 for that yet. So -- so I don't know what FDA's 13 position was on that. 14 Q Did you ever follow up with the 15 Interagency Working Group to say that you were 16 wrong in saying that you cracked the code? 17 MS. O'DELL: 18 Object to the form. 19 A Did I ever follow up with them? No. 20 MR. EWALD: 21 Q Do you believe that you were wrong or 22 maybe overstated things a bit when you told them 23 in February 4 of 2020 that you had cracked the 24 code?</p>	<p style="text-align: right;">Page 145</p> <p>1 (DEPOSITION EXHIBIT NUMBER 12 2 WAS MARKED FOR IDENTIFICATION.) 3 MR. EWALD: 4 Q Okay. And the title on the first page 5 is "The Heavy Liquid Separation Method for the 6 Analysis of Cosmetic Talc to Detect Amphibole and 7 Chrysotile Asbestos." Right? 8 A You read that correctly. 9 Q Great. 10 Talking about sensitivity -- 11 MS. O'DELL: 12 Do you need to see it, Dr. Longo, or 13 are you good with it just on the screen? 14 THE WITNESS: 15 I'm good with it on the screen. 16 MR. EWALD: 17 Q Talks about how to increase TEM 18 sensitivity. Then you also have this brief early 19 history of HLS method for talc developed for J&amp;J, 20 and you then say "the MAS LLC HLS analysis for 21 amphibole asbestos by PLM," and you lay out the 22 procedure that you had at the time. Correct? 23 A Correct. 24 Q Okay. And the next slide, you talk</p>

<p style="text-align: right;">Page 146</p> <p>1 about the MAS LLC HLS analysis for amphibole 2 asbestos by TEM, and you lay out your procedure 3 for that. Correct? 4 A Correct. 5 Q Okay. And then we have MAS LLC HLS 6 analysis for chrysotile asbestos by PLM, and you 7 lay out the procedure that MAS was using for this 8 at the time. Correct? 9 A Correct. 10 Q What aspect -- 11 Well, I'll just go line by line. 12 Stain 200 milligrams of cosmetic talc 13 with betadine, 2 percent iodine solution, filter 14 stain talc material and wash in alcohol/Di-water. 15 Do you still use that as part of MAS's 16 HLS analysis for chrysotile asbestos by PLM? 17 A No. As I discussed earlier in this 18 deposition, that the iodine worked really well 19 for the 1866b NIST chrysotile standards because 20 of the very large bundles that were in there. 21 Q Okay. 22 A But when we got to looking for it for 23 the size of the bundles of chrysotile that was in 24 the cosmetic talc, the 2 percent iodine solution</p>	<p style="text-align: right;">Page 148</p> <p>1 Colorado School of Mines, did they use 2.72? 2 A No. They never used 2.72. 3 Q Okay. 4 A They said less than 2.65. 5 Q Okay. 6 A But our initial trying everything, that 7 was being -- that gave the most. And it was 8 said -- you know, we had -- we had some technical 9 difficulties trying to repeat their stuff. 10 But, no, they didn't use 2.72 11 initially. Well, it's not what they put in their 12 final protocol. 13 Q Centrifuge at 500 rpm for 5 minutes, 14 then 1800 rpm for 5 minutes, is that still MAS 15 LLC HLS analysis for chrysotile asbestos by PLM? 16 A For this sample, we did it for 72 hours 17 at 21 degrees Celsius without breaking. 18 Q And at the time Colorado School of 19 Mines was doing analysis in 1974, did they use 20 the same centrifuge time? 21 A I'm not sure they published in there 22 what centrifuge time they were using. 23 This particular centrifuge time was 24 used by Reynolds in the -- the Windsor project,</p>
<p style="text-align: right;">Page 147</p> <p>1 did not absorb enough to it so it gave it any 2 ability to see it. So it just didn't work. And 3 I won't mention that -- other scientists who came 4 to the same conclusion. 5 And we were using betadine, but the 6 method called for pure iodine. The problem with 7 pure iodine, one, in order to get it, you have to 8 fill out a lot of paperwork for the DEA because 9 it's a precursor in meth productions. 10 And, two, once you made up the 11 solution, it only had about a two- -- a three- or 12 four-day shelf life. And we weren't working on 13 it all day long. And, again, we never used the 14 iodine for identification. It was just supposed 15 to help, and it didn't work. So we dropped that 16 pretty quick after this. 17 Q And the 2.72g/cc HLS, is that the same 18 that you use today for the heavy liquid? 19 A Today -- I'll just give you an update 20 on the very last one we did for Johnson &amp; 21 Johnson. And this one -- 22 And this was the Kirch on 2-15-2024. 23 We used 2 .65. 24 Q Okay. And do you recall in the 1974</p>	<p style="text-align: right;">Page 149</p> <p>1 where they hired him to look for amphiboles in 2 their product -- I mean in the -- in the -- in 3 their Vermont talc. And he found actinolite, and 4 he says he believes the other was anthophyllite. 5 He ran standards, and he showed that it was in 6 there. So I borrowed their centrifuge time. 7 Q Okay. The part about fine tweezer, 8 remove stained chrysotile bundles from filter and 9 place on glass slide, MAS doesn't do that 10 anymore -- right? -- because they don't stain the 11 particles. Right? 12 A That went pretty quickly. That 13 didn't -- that didn't last long. 14 Q Okay. And when you say "have validated 15 detection limit of approximately 0.0001 percent 16 by weight fibers per gram of talc," you're 17 talking about, quote, validation procedures that 18 were done internally by MAS; right? 19 A Correct. 20 Q Okay. And yet we've gone through the 21 various discrepancies, some of the discrepancies 22 between the MAS method and the Colorado School of 23 Mines method, but you, earlier today and in the 24 past have called this, what you were doing, just</p>

<p style="text-align: right;">Page 150</p> <p>1 the Colorado School of Mines method; right?</p> <p>2 A I'm doing what?</p> <p>3 Q All you're doing is not your method.</p> <p>4 It's the Colorado School of Mines method. That's</p> <p>5 what you say; right?</p> <p>6 MS. O'DELL:</p> <p>7 Object to the form.</p> <p>8 A I think it is Colorado School of Mines'</p> <p>9 method. They're the ones who said it could be</p> <p>10 done. I'm just tweaking it. It's not -- it's</p> <p>11 never gonna be the Longo method.</p> <p>12 MR. EWALD:</p> <p>13 Q Okay. What part -- what specific part</p> <p>14 of the Colorado School of Mines method for</p> <p>15 analyzing chrysotile with PLM still remains in</p> <p>16 your analysis today?</p> <p>17 A That we're actually using heavy liquid</p> <p>18 density separation, a well-established</p> <p>19 methodology, to -- to concentrate the chrysotile,</p> <p>20 just like they did, and show that it can be done.</p> <p>21 We'll probably end up with a -- a heavy liquid</p> <p>22 density that's less than 2.65. I believe that's</p> <p>23 where we'll end up. So we'll be using exactly</p> <p>24 what they said. And we're doing it by PLM, just</p>	<p style="text-align: right;">Page 152</p> <p>1 A Because what we were finding in the</p> <p>2 talc, as it turns out, was maybe a thousandths of</p> <p>3 the size of the type of bundles you see in the</p> <p>4 1866b. So it would not absorb enough of the</p> <p>5 pigment, I guess, for lack of a better word, that</p> <p>6 you could pick it out in the sample and then take</p> <p>7 tweezers and take that pinch and put it over in</p> <p>8 the -- on the slide so you could find it easier.</p> <p>9 It didn't work.</p> <p>10 Q In that time period, we'll say early --</p> <p>11 late 19- -- late 2019, early 2020, was Paul Hess</p> <p>12 comparing what he was seeing in the talc to the</p> <p>13 NIST 1866b standard?</p> <p>14 A He initially was using the 1866b</p> <p>15 standard at percentages. And when I finally</p> <p>16 caught up with him that he was doing that, I</p> <p>17 stopped him and said that's -- we have to go</p> <p>18 back; these are not at the concentrations because</p> <p>19 you're using too big of a standard. That's when</p> <p>20 the RG-144 came in, where we could then calibrate</p> <p>21 the analyst to look better for what the</p> <p>22 percentages were.</p> <p>23 Q And I'm sure this is my problem, but</p> <p>24 I'm trying to follow you. So the -- the</p>
<p style="text-align: right;">Page 151</p> <p>1 like they did.</p> <p>2 Q All right. So when we were talking,</p> <p>3 again, in the early stages of MAS's analysis of</p> <p>4 chrysotile by PLM, you were talking about the use</p> <p>5 of the NIST 1866b, and that worked great. And I</p> <p>6 just didn't follow what you were meaning by that.</p> <p>7 A I'm sorry. I'm not understanding the</p> <p>8 question. Could you repeat it?</p> <p>9 Q Yeah. I didn't understand the answer.</p> <p>10 I'm not saying it's your fault. I just didn't</p> <p>11 understand, so I'm trying to wrap my head about</p> <p>12 that.</p> <p>13 We were talking about the early stages</p> <p>14 of analyzing talc for the presence of chrysotile</p> <p>15 using PLM, and you talked about the experience</p> <p>16 early on with the NIST 1866b standard. And what</p> <p>17 I heard some version of -- I'm not saying it was</p> <p>18 your exact testimony but just trying to ring a</p> <p>19 bell here -- that it worked great and there was a</p> <p>20 lot of brownish-blue, but that there -- that was</p> <p>21 a problem. And I wasn't sure what you were</p> <p>22 conveying.</p> <p>23 A For the iodine?</p> <p>24 Q For the iodine, yes.</p>	<p style="text-align: right;">Page 153</p> <p>1 percentages, when you're saying the percentage of</p> <p>2 what you're seeing that didn't match the NIST</p> <p>3 1866b, are you talking about the size of the</p> <p>4 particle?</p> <p>5 A The size of the bundles. Yeah. There</p> <p>6 was -- there was no .1 to 1 percent or 2 percent</p> <p>7 in there. That's -- that was impossible. When I</p> <p>8 saw -- finally saw that data, it was like this is</p> <p>9 wrong. You can't have this much in there. This</p> <p>10 is at trace levels. This is not even close to</p> <p>11 what Colorado School of Mines is finding.</p> <p>12 And, then, I didn't do a deep dive. I</p> <p>13 just looked at it and said, "Why are you doing</p> <p>14 this?"</p> <p>15 "Well, that's the concentrations.</p> <p>16 That's what it looks like."</p> <p>17 No, it doesn't. That's when we started</p> <p>18 really focusing on the -- the -- the Union</p> <p>19 Carbide chrysotile, especially when we started</p> <p>20 seeing that it was giving us very similar</p> <p>21 refractive indices and very similar sizes in</p> <p>22 1.550.</p> <p>23 And then when we found our RG -- our</p> <p>24 SG-210, that was a much better use as a standard</p>

<p style="text-align: right;">Page 154</p> <p>1 than the RG-144 because it was showing the 2 exact -- same ranges of refractive indices, same 3 ranges of length, same ranges of width. So we 4 have -- we had -- we had -- we had it down to the 5 point where it was pretty straightforward. 6 Q So before, though, you started using 7 SG-210, was Paul Hess identifying particles as 8 chrysotile because they matched what he was 9 seeing with NIST 1866b? 10 MS. O'DELL: 11 Object to the form. 12 A No. 1866b has a -- has a different 13 refractive indice [sic] than 1.550 for those big 14 bundles. I mean, you know, the gamma is in the 15 1.550 range to 1.5 -- 1. -- 1.559. I think the 16 highest I've seen is 1.560, the magenta. You've 17 all heard that a few times. It's got to be 18 magenta. 19 But if you look at the bundles of 20 chrysotile that they show in the standards, like 21 the ISO method, the size of those bundles are an 22 entire field of view, maybe four or five hundred 23 microns in length, and their thickness is maybe 24 50 to 100 hundred microns thick. And you get the</p>	<p style="text-align: right;">Page 156</p> <p>1 certain size, it's all the same. So they only go 2 up to a hundred micrometers. 3 So what's the primary difference that 4 we have between what we're seeing in the 1866b 5 standard is how big the structure is. 6 Q So if Paul Hess was not using the 1866b 7 NIST standard to identify what he was seeing in 8 late 2019, 2020 as chrysotile, you had not begun 9 to look, compare yet to SG-210, how was Mr. Hess 10 positively identifying chrysotile during that 11 early period? 12 MS. O'DELL: 13 Object to the form. 14 A Mr. Hess was only using the 1866b as 15 this is how much space it takes up to do the -- 16 the visual estimate for the amount of percent. 17 He was already finding the very small structures. 18 And that's when I stopped him and said you can't 19 use that as your visual estimate, because that 20 has completely different -- not completely 21 different, but the refractive indices on the 22 gamma side are lower, and other min- -- you know, 23 chrysotile minerals we're seeing has a higher 24 gamma, as pointed out by Dr. Su.</p>
<p style="text-align: right;">Page 155</p> <p>1 magenta when you do that, but you also get areas 2 that have the yellowish gold, single little 3 fibrils. But if you look at the size difference 4 between the two, what we're looking at is about a 5 thousand -- 6 You know, and I'm just pulling this out 7 of the air. 8 -- hundreds to maybe a thousandths 9 times smaller than what we're dealing with. 10 Now, I know there's a suggestion that 11 the size of -- the thickness of the bundle makes 12 absolutely no difference, but that doesn't square 13 with the Michelle Levy charts where you determine 14 the birefringence in it on the -- on the, you 15 know, the parallel axis, y axis, as from zero to 16 a hundred micrometers in -- in length. 17 And where you pick off that size, if 18 you go to 10 micrometers off your colors and you 19 say, okay, well, that's -- 20 And they tell you to use the -- the 21 width as the diameter. And you'll have different 22 refractive indices if you've got a 10-micron or a 23 1-micron width versus one that has 50 to 100 24 microns width. Once it gets to a certain level,</p>	<p style="text-align: right;">Page 157</p> <p>1 Q How was -- 2 Withdrawn. 3 What, if anything, was Dr. -- I'm 4 sorry -- Mr. Hess relying on to confirm that what 5 he was looking at in identifying as chrysotile 6 had a correct gamma refractive index? 7 MS. O'DELL: 8 Object to the form. 9 A What was he using? 10 MR. EWALD: 11 Q Yeah. 12 A He was using his experience and 13 knowledge of what the refractive indices, and it 14 didn't match anything else, especially the 15 birefringence. I mean, he's been doing PLM 16 for -- since -- 30, 40 years. And -- and he 17 was -- and he's right. I mean, I was agreeing 18 with him. I made sure that before we -- I put 19 this out there, that we were finding this, that 20 we were following -- and it couldn't be anything 21 else. 22 Q So it's your -- 23 A But I have to say, I mean, we're 24 talking five years ago. I don't remember the</p>



<p style="text-align: right;">Page 158</p> <p>1 whole sequence of events, you know. It's like --</p> <p>2 it's been a lot of work on it over the years.</p> <p>3 But to go from, well, this happened, this</p> <p>4 happened, this happened, this happened, this</p> <p>5 happened, you know, the best way to look at this</p> <p>6 is we go back to when we started -- you know, we</p> <p>7 started analyzing it and putting into the</p> <p>8 notebooks, and you can see there what has changed</p> <p>9 over time.</p> <p>10 Q Well, if I look at the PLM worksheet</p> <p>11 for one of the early analyses, is it going to</p> <p>12 tell me what Mr. Hess used as the basis to</p> <p>13 determine that the gamma refractive index</p> <p>14 corresponded with chrysotile?</p> <p>15 MS. O'DELL:</p> <p>16 Object to the form.</p> <p>17 A No, it's not gonna tell you that. Any</p> <p>18 questions like that, I can tell you.</p> <p>19 You know, we used -- we looked at</p> <p>20 Dr. Su's table for the 1.550, the table 4A and</p> <p>21 4B, and we were in the, you know, the 430 to 450</p> <p>22 range. And there was nothing else it could be</p> <p>23 except chrysotile. It wasn't fibrous talc. It</p> <p>24 wasn't antigorite. It was not lizardite, not</p>	<p style="text-align: right;">Page 160</p> <p>1 Object to the form.</p> <p>2 A I didn't testify at all about</p> <p>3 chrysotile until we had the RG-144 from these</p> <p>4 standards. We knew exactly what we were looking</p> <p>5 for. And we knew that this is what the</p> <p>6 chrysotile was gonna look like, because it was</p> <p>7 matching what we were seeing in the samples.</p> <p>8 MR. EWALD:</p> <p>9 Q How --</p> <p>10 You just told me a couple of questions</p> <p>11 ago that you came up to Mr. Hess after he gave</p> <p>12 you the initial results and you were saying, no,</p> <p>13 no, you shouldn't be using the NIST standard,</p> <p>14 1866b. You should be using this Calidria one.</p> <p>15 Right?</p> <p>16 MS. O'DELL:</p> <p>17 Object to the form.</p> <p>18 A Well, we're talking about two different</p> <p>19 things.</p> <p>20 MR. EWALD:</p> <p>21 Q Okay.</p> <p>22 A I think now I'm more headed to how did</p> <p>23 you -- how did you verify that it was chrysotile?</p> <p>24 Verified it was chrysotile because it was in the</p>
<p style="text-align: right;">Page 159</p> <p>1 sepiolite. It was the only thing it could be.</p> <p>2 And he's a geologist, so, to him, that</p> <p>3 makes sense that you would have that.</p> <p>4 And, then, of course, we started</p> <p>5 looking at --</p> <p>6 Where is that one, the 2022 one?</p> <p>7 MS. O'DELL:</p> <p>8 It's right here.</p> <p>9 MR. EWALD:</p> <p>10 Q Sorry, Doctor. What are you looking</p> <p>11 at?</p> <p>12 A I'm looking at the 2022 one. Those</p> <p>13 analyses for table 2 were done very early on.</p> <p>14 That's how he knew. And this was chrysotile.</p> <p>15 This was all done before we ever put the first --</p> <p>16 on what it should be. And there's no dispute</p> <p>17 that RG-144 is chrysotile.</p> <p>18 Q I thought you just told me that in the</p> <p>19 early days of late 2019, early 2020, when</p> <p>20 Mr. Hess was analyzing some of the talc samples</p> <p>21 by PLM for the presence of chrysotile, that you</p> <p>22 guys hadn't even thought about comparing what</p> <p>23 he'd seen to SG-210 or RG-144.</p> <p>24 MS. O'DELL:</p>	<p style="text-align: right;">Page 161</p> <p>1 ranges that are in the charts.</p> <p>2 And, also, if you look at -- if you</p> <p>3 look at Walter McCrone's -- I think it's 1974, he</p> <p>4 goes through the wavelengths of all the different</p> <p>5 chrysotile mines around the world. I think he</p> <p>6 has 32, 33 of them. There's differences between</p> <p>7 those. And the ones that are the most different</p> <p>8 is from the Coalinga mine, and even ones that are</p> <p>9 even more different -- and I used to have some</p> <p>10 around here, but I don't anymore -- is from the</p> <p>11 Johnson mine in Vermont.</p> <p>12 The standard he -- we made up, he was</p> <p>13 using that for the percentage of chrysotile in</p> <p>14 the sample, not identifying the chrysotile using</p> <p>15 the NIST 1860 -- NIST standard. You can't use</p> <p>16 that to identify what we have here. It has -- he</p> <p>17 doesn't have the right -- unless you do one thing</p> <p>18 to it. Grind it up in liquid nitrogen and get</p> <p>19 the same size as the size we're seeing, and you</p> <p>20 will get very similar refractive indices.</p> <p>21 Q So that goes back to what we talked</p> <p>22 about earlier -- right? -- the -- your theory</p> <p>23 that grinding up in the milling process the talc</p> <p>24 and, presumably, as you are contending,</p>

<p style="text-align: right;">Page 162</p> <p>1 chrysotile, changes the refractive indices.  2 Fair?  3 MS. O'DELL:  4 Object to the form.  5 A I'm not sure what you said. What we  6 took was is the 1866b standard and purchased a  7 liquid nitrogen stainless steel state-of-the-art  8 mill. You have to keep it frozen in liquid  9 nitrogen because it has too much flexibility,  10 unlike tremolite and anthophyllite. So you have  11 to keep it, make it brittle, which the liquid  12 nitrogen does.  13 And, then, once I got it down to a size  14 I thought was appropriate, I ran it through a  15 sieve and took the minus 200 in the sieve and  16 then had them analyze it, and the refractive  17 indices are just about -- you know, they're  18 different. They're not -- they're not your  19 usual, you know, magenta. You know, we've got  20 some sizes that we get very similar stuff that  21 we'd seen before. A lot of it was around the  22 1.562.  23 MR. EWALD:  24 Q Apart from your liquid nitrogen</p>	<p style="text-align: right;">Page 164</p> <p>1 MS. O'DELL:  2 Object to the form.  3 A If you go to our supplement expert  4 report, October 9th, 2023, and you go to section  5 7 --  6 MR. EWALD:  7 Q I'm sorry, Doctor. What are you  8 looking at?  9 A Supplement expert report, October 19th,  10 2023, comparison by our chrysotile structure  11 size, Union Carbide's SG-210 product with  12 Coalinga mine, California, Montana, blah, blah,  13 blah, and reduced-size NIST 1866b chrysotile  14 standard, which is the very last section. And  15 I'm gonna tell you what page it's on.  16 Here we go. Got to get down to it,  17 1.550.  18 You want to go to page --  19 Let me get to the post 1.550.  20 Okay. You go to page 175. Best  21 example is on page 195, because this was our  22 first attempt at this, where our perpendicular --  23 excuse me -- parallel is 1.563, and there's no  24 magenta, the pinkish-purple -- pinkish-red, and</p>
<p style="text-align: right;">Page 163</p> <p>1 experiment, do you have any support for the  2 proposition that grinding chrysotile changes its  3 refractive index?  4 MS. O'DELL:  5 Object to the form.  6 A Getting it down to a size that is way  7 different than what's in there, it does change  8 the refractive index, because it changes the  9 birefringence, because we have a chart that shows  10 that. And you can't change the birefringence  11 unless you're changing the refractive indices.  12 MR. EWALD:  13 Q So when you talked about grinding it to  14 a size smaller than what we see --  15 I just wasn't sure what you were  16 referring to. What size are you grinding it to?  17 A A minus 200 sieve size, cosmetic talc  18 size.  19 Q And I don't think you answered my  20 question as to, leaving aside the liquid nitrogen  21 experiment that you just discussed, do you have  22 any support for the proposition that milling and  23 grinding a chrysotile particle will change its  24 refractive index?</p>	<p style="text-align: right;">Page 165</p> <p>1 we have a lot of 1.563s in the SG-210 as well  2 as -- as well as in the products themselves.  3 Now, the parallel -- excuse me. The  4 perpendicular were never really that far out of  5 line. That doesn't change that much.  6 Q Do you have a working theory on why the  7 milling and grinding of chrysotile will alter the  8 gamma refractive index but not the alpha?  9 A I don't have a working theory on it,  10 but it is consistent with what Dr. Su said in his  11 paper, that he said you will have significantly  12 higher gammas than the 1866b. He didn't say  13 anything at all about having significantly higher  14 perpendiculars. I just don't -- you know, that  15 seems to be not affected by the -- by the  16 diameter of the bundle.  17 Q Has anyone other than Paul Hess  18 conducted PLM chrysotile analysis on J&amp;J talc --  19 MS. O'DELL:  20 Object to the form.  21 MR. EWALD:  22 Q -- for MAS?  23 A We have. We have three -- we had three  24 people that was doing that at the time, but</p>

<p style="text-align: right;">Page 166</p> <p>1 mostly just the QC end of it. That would be  2 Chris DuBour. And that was about it.  3 Q Okay. So what I heard from you is that  4 Chris DuBour and one other person helped on the  5 QC, but that Paul Hess was the analyst making the  6 decisions?  7 MS. O'DELL:  8 Object to the form.  9 A He was -- if you look on the reports,  10 his name's the only name on there.  11 MR. EWALD:  12 Q Right. So you would agree with me that  13 Chris DuBour and the unnamed third person --  14 A I think Chris DuBour, he may have a  15 project somewhere that's got his name on it. I  16 just -- you know, I'd have to go look.  17 Q Okay. I've heard some differing things  18 about Mr. Hess's current status at MAS. What is  19 his current employment status?  20 A He's now working part-time again for us  21 instead of just a consultant.  22 Q When did he go back to working  23 part-time?  24 A I don't remember the exact time. But</p>	<p style="text-align: right;">Page 168</p> <p>1 MAS at this point in time?  2 A Me, Paul Hess, and we have some  3 trainees coming along.  4 Q Why? There are trainees coming along?  5 They're not ready at this point in time?  6 A Well, they have to get really where I'm  7 comfortable that what they're doing is correct.  8 We invest a lot of time in training them.  9 Q And you're not, at this point,  10 comfortable that they know how to do the right  11 thing?  12 MS. O'DELL:  13 Object to the form.  14 A They're early in their training  15 program. It's not comfortable or uncomfortable.  16 You know, if I had a Ferrari and I wanted them to  17 race a track, no. Would I put them in it now?  18 No. But I don't have a Ferrari. I'm not even  19 sure why I used that analogy.  20 MS. O'DELL:  21 Me either.  22 A Must be getting tired. What time is  23 it? 4:19.  24 MS. O'DELL:</p>
<p style="text-align: right;">Page 167</p> <p>1 he's --  2 Q Was it last year?  3 A Huh?  4 Q Was it last year or this year?  5 A I think it was this year.  6 Q What period of time was he working as a  7 consultant?  8 A I don't recall.  9 Q Do you currently intend to analyze any  10 additional samples of J&amp;J talc by PLM for the  11 presence of chrysotile?  12 MS. O'DELL:  13 Object to the form.  14 A I mean, it's hard for me to say I'm not  15 going to analyze anything more. We're always  16 doing research. If we do any more, I'll  17 certainly let my client know so they can let you  18 know.  19 MR. EWALD:  20 Q Understood.  21 And if -- if MAS, whether it's with J&amp;J  22 or another cosmetic talc manufacturer, if MAS is  23 going to do any PLM analyses for the presence of  24 chrysotile, is -- who is qualified to do that at</p>	<p style="text-align: right;">Page 169</p> <p>1 4:20.  2 A Cut off at 5:00.  3 MR. EWALD:  4 Q Okay. I --  5 Well, I think --  6 I'm just cognizant of others and the  7 court reporter. I can't remember when we went  8 back on the record. We've been going for more  9 than an hour. Do you want to take a quick break  10 before and then finish up at 5, or do you want to  11 plow through? I'm happy to do either.  12 A Let's stop now? I'm not sure what you  13 said.  14 MS. O'DELL:  15 You want a 5-minute break and then  16 finish at 5:00, or --  17 MR. EWALD:  18 Yeah. I'm happy to push through. I  19 think we've been going for over an hour. I just  20 want to make sure that anybody else doesn't want  21 to take, like, a quick two-, three-minute break.  22 That's all I'm saying.  23 A Yeah. That's a good idea.  24 VIDEOGRAPHER:</p>

<p style="text-align: right;">Page 170</p> <p>1 Off record. The time is 4:20.  2 (OFF THE RECORD.)  3 VIDEOGRAPHER:  4 Back on record. Time is 4:27.  5 MR. EWALD:  6 Q Doctor, I saw in a recent deposition of  7 yours that you were discussing results of testing  8 by Mark Bailey involving TEM and CSM method. Do  9 you know what I'm talking about?  10 A I do.  11 Q So tell me what you know about that  12 testing by Mark Bailey.  13 A Alls he's doing is TEM, and he's doing  14 CSM on every sample for both amphiboles and  15 chrysotile. And the data I heard about, that  16 he's -- he's finding about 75 percent positive  17 for chrysotile using CSM.  18 Q Where did you hear about it?  19 A From him.  20 Q Okay.  21 A Satterley and them. It's not J&amp;J. And  22 I will not name who it is. But I think he's  23 taking our work and --  24 Well, not sure. So --</p>	<p style="text-align: right;">Page 172</p> <p>1 results have been made public?  2 A I think they have been made public in  3 non-J&amp;J cosmetic talc project -- I mean  4 litigation.  5 Q Okay.  6 A So -- but I thought you guys all talk  7 to each other.  8 Q I know. Like I said, I've gotten out  9 of the game; right? So I guess no one told me.  10 So I want to talk a little bit about  11 lab accreditations. And am I correct that MAS at  12 current is not accredited by NVLAP?  13 A We dropped out of the NVLAP program,  14 and we went in -- we joined the A2LA program that  15 is -- follows ISO methods for accreditation  16 because we have so many that we do through A2LA  17 that's not provided by others. And I know people  18 have a problem with this, but we were recommended  19 by our last auditor that we drop the program  20 because we were wasting our money.  21 Now, we still do the same PLM PAT  22 rounds. We also do TEM PAT rounds as --  23 But A2LA -- excuse me -- NVLAP, when  24 the auditor comes in, they're only interested in</p>
<p style="text-align: right;">Page 171</p> <p>1 Q You at least --  2 A He's not focused on PLM. He's focused  3 on TEM.  4 Q Can you confirm that, based on what you  5 just said, that whatever testing he's done of  6 samples are not J&amp;J samples?  7 A I've not heard he's done J&amp;J samples.  8 Q Have you seen any images or data from  9 his testing of the -- using TEM and CSM method?  10 A I was shown it, but I was not given the  11 data.  12 Q Are you planning to rely on those  13 findings to support the conclusions that you are  14 offering in this MDL?  15 A Well, I would caution you, don't say  16 that nobody else in the world is doing -- finding  17 chrysotile in cosmetic talc samples using a CSM  18 method.  19 Q I didn't say that, did I? I haven't  20 said that.  21 A You used to say that.  22 Q I don't know if I did.  23 Okay. Is -- I guess you have an  24 understanding as to whether or not these test</p>	<p style="text-align: right;">Page 173</p> <p>1 looking at reports that have to do with schools,  2 PLM samples of schools, air sample analysis of  3 schools. And our 1990 ad didn't work very well  4 because we don't get any more samples from  5 schools, or attorneys, from that.  6 So he said that we were wasting our  7 money and we ought to do this. So we dropped it.  8 But we're still doing the exact same thing we  9 were doing before on the PAT rounds.  10 Q What I saw on your website is as it  11 relates to asbestos in cosmetic talc products by  12 TEM certified for ISO 22262-1 and 22262-2. Is  13 that correct?  14 A That is correct. We have that  15 certification from A2LA or ISO. And we get  16 audited every year. As far as I know, we're the  17 only laboratory in the country that actually has  18 been certified to analyze, by both PLM and TEM,  19 for amphibole asbestos in talc.  20 Q All right. And you are not certified  21 by A2LA or ISO for analyzing talc products for  22 the presence of chrysotile; correct?  23 A We have not applied for that yet.  24 Q Do you have plans to apply for it?</p>

<p style="text-align: right;">Page 174</p> <p>1 A Well, of course, some day.</p> <p>2 Q When you talked about being --</p> <p>3 Well, let me first ask. For --</p> <p>4 And I'm understanding for NVLAP. But</p> <p>5 for A2LA, what goes into the initial</p> <p>6 certification process that we see here, for</p> <p>7 example, the two ISO 22262 methods?</p> <p>8 A Those are confidential business</p> <p>9 records, so we won't discuss that.</p> <p>10 Q Okay. Let's be clear on what, if</p> <p>11 anything, you're willing to discuss.</p> <p>12 Are you testifying that you are not</p> <p>13 going to tell me what steps MAS had to take to</p> <p>14 satisfy A2LA that they should be certified under</p> <p>15 the different methods?</p> <p>16 MS. O'DELL:</p> <p>17 Object to the form.</p> <p>18 A No, I'm not gonna discuss it. I mean,</p> <p>19 we have quite a few A2LA certifications. So</p> <p>20 that's not really offered by other people, such</p> <p>21 as, you know --</p> <p>22 And as soon as I start talking about</p> <p>23 what we supply to them, you'll start putting it</p> <p>24 in your subpoenas.</p>	<p style="text-align: right;">Page 176</p> <p>1 outgassing of volatile organic compounds, VOCs.</p> <p>2 There's three or four labs that do it in the</p> <p>3 country. There's only one of us that are</p> <p>4 certified to do it. Because we put up standards,</p> <p>5 put it into the chambers to mimic what comes out</p> <p>6 of things like rugs and, you know, tables that</p> <p>7 have, you know, a surface on it that is emitting</p> <p>8 VOCs or car parts, that nice new car smell that</p> <p>9 we all love. You know, that's volatile organic</p> <p>10 compounds.</p> <p>11 So we would introduce that into the</p> <p>12 chambers, measure them to show that, you know, we</p> <p>13 can replicate it.</p> <p>14 There is no -- you know, you can't go</p> <p>15 to AIJ for that. You can't go to any -- any --</p> <p>16 any type of group that says, okay, here's for VOC</p> <p>17 testing. This is what you have to do.</p> <p>18 So we come up with the protocol in what</p> <p>19 we're doing and then prove that we can replicate</p> <p>20 that work, and then they give you the</p> <p>21 certification, and they come in once a year and</p> <p>22 look over everything.</p> <p>23 Q Are you willing to testify about what</p> <p>24 goes into the yearly audit of -- by A2LA?</p>
<p style="text-align: right;">Page 175</p> <p>1 MR. EWALD:</p> <p>2 Q Well --</p> <p>3 A It's business records, and it's</p> <p>4 confidential, you know. It's same thing about</p> <p>5 SOPs. They see an SO- --</p> <p>6 We may -- you know, hypothetically,</p> <p>7 they'll be looking at an SOP. Then they come in</p> <p>8 and audit and they look and see what we're doing</p> <p>9 and they look at analysis. They do what NVLAP</p> <p>10 do.</p> <p>11 Q And the PAT --</p> <p>12 Sorry. Go ahead.</p> <p>13 MS. O'DELL:</p> <p>14 Sorry. I don't think he's finished.</p> <p>15 A Yeah. Except here, they're not just</p> <p>16 interested in schools. They're interested in</p> <p>17 what -- what we're actually accredited for, so --</p> <p>18 And it's really -- it's really good</p> <p>19 because not every analysis that you do, there is</p> <p>20 a standard accreditation for it.</p> <p>21 Q I'm sorry. I didn't follow that last</p> <p>22 point. You're saying that it's --</p> <p>23 A Well, for example, we do a lot of -- we</p> <p>24 do a lot of chamber work where we're measuring</p>	<p style="text-align: right;">Page 177</p> <p>1 A They have checked your analysis. They</p> <p>2 check controls, et cetera, et cetera. They want</p> <p>3 to look at the equipment. They want to look at</p> <p>4 the analysis. They want to look at reports.</p> <p>5 Q So when they -- somebody comes from --</p> <p>6 Was it one person that comes from A2LA</p> <p>7 or more than one person?</p> <p>8 A Just one.</p> <p>9 Q And what sort of training does the</p> <p>10 person from A2LA have, to your understanding?</p> <p>11 A Oh, they've either been doing this for</p> <p>12 a while or, you know, it's --</p> <p>13 They typically don't give their résumés</p> <p>14 out; just give their titles and what they've</p> <p>15 been, you know, kind of doing. I've never run</p> <p>16 across one that didn't know what they were doing.</p> <p>17 Q So this A2LA representative shows up.</p> <p>18 Say that they check your analyses. What does</p> <p>19 that mean, "check your analyses"?</p> <p>20 A They want to see that you're doing what</p> <p>21 you said you were gonna be doing.</p> <p>22 Q And how do they do that?</p> <p>23 A Well, they look at the analysis. They</p> <p>24 look at your SOPs. They look at the equipment.</p>



<p style="text-align: right;">Page 178</p> <p>1 They look at reports that you've generated where 2 you've either not found something or found 3 something. They want to look at the process 4 blanks that we say that we do on every batch of 5 TEM samples. They want to see, you know, how 6 we're determining and not contaminating samples. 7 You know, every quarter we do air samples in all 8 the areas where we handle asbestos; whether it's 9 working properly, whether they have the 10 appropriate airflow into them. You know, it's 11 just whatever -- 12 It's really not a set schedule of what 13 they're looking at. Do we calibrate the 14 balances? Did we do this? Did we do that? 15 Fortunately, I don't have to deal with them too 16 much. 17 Q So you said they look at reports. That 18 includes litigation reports? 19 A Excuse me? 20 Q So they look at reports. Does that 21 include litigation reports? 22 A Um, well, we show them the analysis of 23 a litigation report, not the -- they don't read 24 the reports. I would never do that. But we've</p>	<p style="text-align: right;">Page 180</p> <p>1 Object to the form. 2 A I'm preventing you or your client to 3 get double the confidential business records that 4 people would love to have because it would save 5 them a lot of time and effort to get these 6 certifications. 7 You know, it's the same thing with 8 NVLAP. I wouldn't give those up either until you 9 guys did a -- J&amp;J did a FOIA on it. And I wasn't 10 going to provide any information about our audit 11 with FDA. So, you know, I look at that as all 12 confidential business records. 13 MR. EWALD: 14 Q From -- 15 For all of the -- for all of the PLM 16 chrysotile tests that are included in the fourth 17 supplemental MDL report dated April 29th, 2024, 18 how much money has MAS been paid by plaintiffs' 19 lawyers? 20 A From when to when? 21 Q For all of the testing of the M- -- 22 Withdrawn. 23 From when to when is all of the tests 24 included in the fourth supplemental MDL report</p>
<p style="text-align: right;">Page 179</p> <p>1 got to show them examples of the analysis we're 2 doing. 3 But most everything else is not -- you 4 know, everything else besides what we're doing 5 for the Blount -- the Blount and the TEM, it's 6 nonlitigation that we have these other 7 certifications for. 8 Q Have you or anyone at MAS, to your 9 knowledge, asked A2LA about what it would take to 10 get certified for the PLM chrysotile method? 11 A No. Not that I'm aware. 12 Q In -- 13 Since MAS has obtained these A2LA 14 talc-related certifications, you have testified 15 on direct at various trials highlighting the 16 accreditations; correct? 17 A Absolutely. We're proud of it. And I 18 think we're the only ones in the country still 19 that has that certification on both plaintiff's 20 and defense side. 21 Q But yet you are preventing me and my 22 client from finding out anything that went into 23 obtaining those certifications. 24 MS. O'DELL:</p>	<p style="text-align: right;">Page 181</p> <p>1 dated April 29th, 2024, that are the PLM 2 chrysotile tests? 3 A I would consider that confidential. 4 Q On what basis? 5 A The basis is is that our -- we look at 6 it as confidential unless we can come to an 7 agreement, like the last time, that these 8 invoices were produced from both sides, you know, 9 your experts, our experts, and we can redact what 10 we did. 11 And I recall that the amount MAS 12 invoices for -- I think this is 2016, 2017, 2018 13 or so -- it's like 2.9 million, and RJ Lee was 14 like 5-point-something million, 5.6 million. 15 But, you know, I thought that was 16 pretty fair, that, okay, get the experts in. We 17 have to produce, you know, who we'd done the work 18 for, and we were able to redact. So this was, 19 you know, quid pro quo. It seems like only -- 20 So I always consider that confidential. 21 Q Unless there's a quid pro quo. 22 A No. I still think it ought to be 23 confidential. But certainly, you know, when the 24 judges get together and they come up with</p>

<p style="text-align: right;">Page 182</p> <p>1 something that they deem is fair for both sides.</p> <p>2 Q So it's, in your nonlegal opinion, it</p> <p>3 should be confidential about the amount of money</p> <p>4 you have been paid by plaintiffs' lawyers to</p> <p>5 conduct the studies that you are relying on in</p> <p>6 your fourth supplemental MDL report for your</p> <p>7 expert opinions in this case?</p> <p>8 MS. O'DELL:</p> <p>9 Object to the form.</p> <p>10 A I'm not an attorney.</p> <p>11 MS. O'DELL:</p> <p>12 Yeah. Please don't give a legal</p> <p>13 opinion.</p> <p>14 MR. EWALD:</p> <p>15 Q I was very clear. I asked not from a</p> <p>16 legal perspective.</p> <p>17 MS. O'DELL:</p> <p>18 Well --</p> <p>19 MR. EWALD:</p> <p>20 Hold on. Hold on. You're the one --</p> <p>21 Leigh, hold on. Hold on.</p> <p>22 MS. O'DELL:</p> <p>23 I'm not --</p> <p>24 MR. EWALD:</p>	<p style="text-align: right;">Page 184</p> <p>1 studies that are contained in Dr. Longo's fourth</p> <p>2 supplemental MDL report dated April 29th, 2024,</p> <p>3 and specifically outlined on tables 1, 2, 3, 4,</p> <p>4 5, 6, and 7 at the back of the report?</p> <p>5 MS. O'DELL:</p> <p>6 Same objection.</p> <p>7 MR. EWALD:</p> <p>8 Q But you understand what I'm asking for?</p> <p>9 A I understand. And I would just be</p> <p>10 speculating. I have no idea on what the amounts</p> <p>11 would be for all -- for the different plaintiffs</p> <p>12 that we've done work for. I'm just -- you know,</p> <p>13 on the chrysotile.</p> <p>14 Q Okay. I'm about to start something</p> <p>15 new. We can stop ten minutes early if you want.</p> <p>16 MS. O'DELL:</p> <p>17 Okay. Let's do it. Let's, you know,</p> <p>18 let's go off the record and stop for the day, and</p> <p>19 then we'll pick it up.</p> <p>20 VIDEOGRAPHER:</p> <p>21 Okay. Should we go off record?</p> <p>22 MR. EWALD:</p> <p>23 Yes.</p> <p>24 MS. O'DELL:</p>
<p style="text-align: right;">Page 183</p> <p>1 There's not a question pending.</p> <p>2 Leigh -- Leigh --</p> <p>3 MS. O'DELL:</p> <p>4 You do not have a question pending.</p> <p>5 I'm objecting and saying he's provided that</p> <p>6 there's been information provided about what he's</p> <p>7 paid -- been paid in relation to his MDL work. I</p> <p>8 just want to make that clear. And we provided</p> <p>9 those invoices, and he testified to it earlier.</p> <p>10 So to the degree you're asking</p> <p>11 something else, you need to make it clear. And I</p> <p>12 just want to make sure the record is -- is clear</p> <p>13 as well that we've provided what we feel is</p> <p>14 appropriate under the MDL order.</p> <p>15 MR. EWALD:</p> <p>16 And I'm happy -- I don't always ask the</p> <p>17 best questions, but I feel like my question was</p> <p>18 pretty clear, which is how much money has Dr. --</p> <p>19 Sorry. Withdrawn.</p> <p>20 How much money has AMA --</p> <p>21 See, now you've got me all flustered,</p> <p>22 Leigh.</p> <p>23 How much money has MAS been paid by</p> <p>24 plaintiffs' lawyers for the PLM chrysotile</p>	<p style="text-align: right;">Page 185</p> <p>1 Thank you, John.</p> <p>2 VIDEOGRAPHER:</p> <p>3 Going off record. Time is 4:48.</p> <p>4 (Deposition adjourned at 4:48 p.m.)</p> <p>5</p> <p>6</p> <p>7</p> <p>8</p> <p>9</p> <p>10</p> <p>11</p> <p>12</p> <p>13</p> <p>14</p> <p>15</p> <p>16</p> <p>17</p> <p>18</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p> <p>23</p> <p>24</p>

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## 1           C E R T I F I C A T E

2  
3           I do hereby certify that the above and  
4 foregoing transcript of proceedings in the matter  
5 aforementioned was taken down by me in machine  
6 shorthand, and the questions and answers thereto  
7 were reduced to writing under my personal  
8 supervision, and that the foregoing represents a  
9 true and correct transcript of the proceedings  
10 given by said witness upon said hearing.

11          I further certify that I am neither of  
12 counsel nor of kin to the parties to the action,  
13 nor am I in anywise interested in the result of  
14 said cause.

15  
16  
17

18           *Lois Anne Robinson*  
19           /s: // Lois Anne Robinson

20           LOIS ANNE ROBINSON, RPR, RMR  
21           REGISTERED DIPLOMATE REPORTER  
22           CERTIFIED REALTIME REPORTER  
23  
24

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## Federal Rules of Civil Procedure

## Rule 30

(e) Review By the Witness; Changes.

(1) Review; Statement of Changes. On request by the deponent or a party before the deposition is completed, the deponent must be allowed 30 days after being notified by the officer that the transcript or recording is available in which:

(A) to review the transcript or recording; and

(B) if there are changes in form or substance, to sign a statement listing the changes and the reasons for making them.

(2) Changes Indicated in the Officer's Certificate. The officer must note in the certificate prescribed by Rule 30(f)(1) whether a review was requested and, if so, must attach any changes the deponent makes during the 30-day period.

DISCLAIMER: THE FOREGOING FEDERAL PROCEDURE RULES ARE PROVIDED FOR INFORMATIONAL PURPOSES ONLY.

THE ABOVE RULES ARE CURRENT AS OF APRIL 1, 2019. PLEASE REFER TO THE APPLICABLE FEDERAL RULES OF CIVIL PROCEDURE FOR UP-TO-DATE INFORMATION.

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COMPANY CERTIFICATE AND DISCLOSURE STATEMENT

Veritext Legal Solutions represents that the foregoing transcript is a true, correct and complete transcript of the colloquies, questions and answers as submitted by the court reporter. Veritext Legal Solutions further represents that the attached exhibits, if any, are true, correct and complete documents as submitted by the court reporter and/or attorneys in relation to this deposition and that the documents were processed in accordance with our litigation support and production standards.

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